

THE CULTIVATOR

THIRD]

TO IMPROVE THE SOIL AND THE MIND.

[SERIES.

VOL. X.

ALBANY, N. Y., SEPTEMBER, 1862.

No. 9.

PUBLISHED BY LUTHER TUCKER & SON
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

TERMS—FIFTY CENTS A YEAR.—Ten copies of the CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Five Dollars.

THE CULTIVATOR has been published twenty-eight years. A NEW SERIES was commenced in 1853, and the nine volumes for 1853, 4, 5, 6, 7, 8, 9, 60 and 61 can be furnished, bound and post paid, at \$1.00 each.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two vols. yearly of 416 pages, at \$2.00 per year, is issued by the same publishers.

EDITORIAL CORRESPONDENCE.

Scattered Notes of Travel.

FARMING UNDER DIFFICULTIES.—EDWARD HOWLAND of New-Bedford, took me to his farm on Clarke's Point, where he is reducing the roughest and most unpromising land to smoothness and fertility. He is widely and successfully engaged in commercial business, and occupies a part of his time in rural improvement for the purpose of health and recreation. The land before improvement is encumbered with large quantities of huge boulders, weeds and brush. Such boulders as weigh only a few hundred pounds, are drawn off on stone-boats; those from one to three tons are removed by means of the new stone-lifter (which has been lately described in most of the agricultural papers, but the inventor's name I have forgotten,) which takes them up in its huge claws and drops them where needed for farm walls. One field is thus cleared annually, leaving a good, mellow, productive soil, and furnishing fences that will be likely to last a thousand years at least. The walls are built in trenches, dug about two feet deep, preventing their displacement by frost, and are about four feet high. Common, substantial walls, cost about \$2 per rod; those built chiefly of the large stones (weighing two or three tons) faced on one side, \$3 per rod; while the handsomest and most substantially built, faced on both sides, cost \$6 a rod. A poultry-yard, fenced with pickets, was attached to granite posts by means of iron bolts set in drilled holes—a post not uncommon in New-England. The proprietor informed me that these posts, made by his own workmen by means of drilling and wedging, cost only 15 cents each besides the drilling—the usual market price being a dollar. I did not see any thing to prevent their lasting at least five thousand years.

The surplus stone are drawn two miles to the city, and sold, the wagons returning with manure. The cost of drawing off all the stone, and reducing the soil to a fine mellow condition, is \$200 to \$300 per acre. Such land has produced 60 bushels of corn, and is worth the interest on \$300 per acre for the pasturage of city cattle.

Fish is largely used as manure. It is bought at 25 cents per barrel, and usually scattered over the corn-fields till fermentation is fairly in progress, when it is covered with the hoe. A more perfect mode of using is to manufacture it into compost. Alternating layers formed of two inches of fish and twelve inches soil, forked over, makes a compost equal in strength to good stable manure. It acts with more power at first, but does not last so long as common manure. A barrel of fish, used either way, is regarded as valuable as a ton of average stable manure. Its effects will not last over three or four years—but obviously much longer on clay soil than light loam.

RIPENING GRAPES OVER STONE BORDERS.—MATHEW HOWLAND of New-Bedford, informed me that the sea winds often effected serious injury to his grapevines when



Ripening Grapes over Stone.

trained to a common trellis. Observing that a vine which accidentally ran over rocks, bore well, and ripened its crop early, he has constructed a border of stone, over which the grapes are trained. The border is on the south side of the garden wall, and is warm and well sheltered from winds. The bed of stones is about six feet wide, and a foot and a half high—the front kept even with plank. From the front edge of this plank a nearly flat and sloping trellis extends to the garden wall, over which the vines run a few inches above the stone. The shelter, and the reflection from both wall and stone cause the fruit to ripen about a fortnight sooner than when suffering from exposure. The stone were round specimens about the size of one's head, and were laid loosely and evenly in the border.

HORTICULTURE AT NEWPORT, R. I.—Accompanied by my friend J. M. EARLE of Worcester, I have made a hurried visit to several of the fine gardens of this city. DUNCAN PELL has a small place in the more compact part of the city, which he has improved to much advantage, and has a good collection of greenhouse plants, hardy shrubbery and dwarf pears. One end of his greenhouse was nearly covered with a trained heliotrope the stem of which was an inch and a half in diameter, and the spreading plant 12 feet high. Among other interesting objects in the collection were some very fine new double Fuchsias. The dwarf pears were in a state of vigorous growth, but al-

though several years of age, he stated did not bear well. They furnish, however, fine specimens. Uvedale's St. Germain has grown to a weight of *two pounds four ounces*. He greatly prefers standard pears for this locality. The cool damp air of summer at this place, which renders it so desirable for a summer retreat, is not favorable to earliness, and he informed me that only a few miles distant inland there was a difference of nearly two weeks in the ripening of strawberries and other early fruits. Newport seems to resemble England in its climate more nearly than any other place in this country, by its cool summers and warm winters, and is therefore especially favorable to the growth of ornamental trees and shrubs.

The summer residence of CHARLES H. RUSSELL of New-York, is one of the best kept places here. The grounds contain 13 acres, in a high state of finish, six gardeners being mostly employed. One of the novelties of the place is a fine weeping oak, the lower branches of which lie prostrate upon the ground and extend 20 feet from the trunk. The growth of peaches in pots is successfully practiced; several trees, about 4 feet high, had crops approaching maturity; among others the Early Tillotson had already assumed a deep red hue, and was nearly ripe. The gardener informed us that giving plenty of air, or by placing them outside the glass for a week or two before they became mellow, imparted a fine flavor, and they became as good as those grown on standard trees. A small but excellent grapery was well filled with ripening fruit. A number of vines in pots from cuttings made in the spring of 1861, were bearing five or six fine bunches each. Dwarf pears do well in the fruit garden, and many were profusely loaded with young fruit. They are not trained as pyramids, but more in the umbrella form, or rather in a succession of spreading and drooping whorls from top to bottom. Wilson's Albany is preferred on the whole to any other strawberry, and Hovey's Seedling next.

Another fine place is the summer residence of DELANCY KANE of New-York, and is distinguished for its collection of conifers. A large curvilinear roof grapery contained a heavy crop. Peaches and nectarines are very successfully trained in a sloping position towards a wall, and covered with a single line of glass sash. The accompanying section will show the mode. The trees were several years old, about four inches in diameter at the ground, and were trained in the fan shape 9 or 10 feet high. They were fully set with young peaches, already an inch or more in diameter. The glass is a few inches outside the trained surface, and inclines against the wall, protecting from weather and insects. The whole contrivance is simple, comparatively cheap, and attended with success.

The residence of J. N. HART is a smaller place, but containing many objects of interest. In the greenhouse there was a fine collection of the new double Fuschias, and other greenhouse plants. The long ranges of pear trees trained as espaliers were in a successful state of growth.

Pears.—J. M. Earle of Worcester informed me while here that the *Paradise d'Automne* had proved the most productive of all varieties at Worcester, while in quality it continued to maintain its high reputation. The *St. Ghislain* is more highly esteemed than formerly—the

fruit improves materially as the tree advances in age from its first bearing. It ripens with the *Bartlett*, but the *Bartletts* remain untouched and uneaten while the *St. Ghislains* are all gone. The *Beurre Clairgeau* has diminished none of its high promise by later experience. It is vigorous in growth and very productive, while the fruit is large, beautiful and good, ripening at a season (late autumn) that renders it very valuable. The *Alexandre Lambre* is a new variety of high promise. EDWARD EARLE of the same place informed me that for productiveness and vigor, the *Buffum* was nearly unequalled. A tree standing on his grounds, which he grafted when a small twig 22 years ago, is now about 30 feet high, and bore $7\frac{1}{2}$ bushels in 1861, and 20 bushels in 1860. Last year's crop was much smaller than usual. The crop sells at about \$3 per bushel. The great success with this tree appears to be owing to its proximity to the site of a cess pool and a buried animal—but if the same results could be obtained by repeating or furnishing a similar manuring, an acre of 150 trees might be relied on to supply an annual average crop of some 1,500 bushels, worth over \$4,000—the interest on \$60,000, and paying better than many shares of fancy railway stock.

A GLANCE AT PROVIDENCE, R. I.—Horticulture has not made so great an advance here as at some other places, although there are many neat gardens of moderate pretensions. One of the best is that of ALEXANDER DUNCAN, the celebrated banker. The house, grounds and garden, occupy some three or four acres, in a high state of keeping. That portion of the grapery warmed with fire heat presented a fine appearance. Hamburgs with bunches nearly a foot long and weighing several pounds, already a dark purple, hung in profusion from the vines overhead. The greenhouse contained some fine specimens of the more common plants. An India-rubber tree, two or three inches in diameter, and 11 or 12 feet high, was growing vigorously with luxuriant foliage. Gov. SPRAGUE has a new and handsome glass structure, with three wings, one devoted to green-house plants, a second to raising pine-apples, while the third is a grapery. Several vines in pots were well loaded with grapes. The Fuschias in the green-house, although not of rare sorts, were unusually fine in appearance, the short symmetrical form and drooping trusses of flowers entirely concealing the pots, and producing a highly ornamental effect. At President WAYLAND'S very neat and inexpensive garden, the mode in which a hardy grape-vine was trained, rendered it somewhat an object of landscape beauty. The stem of a cedar tree 8 or 9 feet high, with all the branches projecting a foot or more, was set like a post and the vine trained over so as to cover it—the whole having something of the form of a pyramidal tree. When loaded with ripe grapes it must be a handsome object. I am informed by different cultivators here that the two varieties of the strawberry most valued are the *Wilson* and *Hovey*—the former being preferred to any other.

A HANDSOME FLOWER GARDEN.—One of the finest displays of floral beauty that I ever witnessed, was on the banks of the *Sekonk* river, two miles east of Providence. The *Kalmia* grows there naturally in great profusion, and was in full bloom, mixed as it was with the thin undergrowth of the scattered woods. Single masses of this beautiful flower, covering many square yards, were seen scattered abundantly over whole acres. The ride along the banks of the river, and through this elegant natural



garden, is one that is scarcely equalled so near a city.

NEAT STABLES.—Some of the citizens of Providence seem to have given particular attention to the construction of neat stables, a few of which I examined. That of ALEXANDER DUNCAN is kept as neat as a parlor. The floor is hard burnt brick on edge, laid as smooth as marble flagging.

The walls were grained in imitation of oak—the partitions grained plank, set in cast-iron frame—the mangers cast-iron. The rye straw for litter was spread smoothly and evenly, bordered with a braided straw carpet next the passage. My friend who accompanied me, playfully inquired of the coachman if the horses were subject to the usual wants of nature, as no barn odor nor its indications were visible. I would much prefer taking a meal from a table set in this stable, to one in a liquor-fumed tavern. The harness-room was a model of neatness,—furnished with a neat oil-cloth carpet, clock, &c.,—a room for washing harness adjoining, fitted with water-pipes and stop-cocks—and the large carriage-room in keeping. Dr. TOBEY'S stable was smaller, but in the neatest order—the carriage-room and office of varnished walls, and furnished with coal-stove, gas-pipes, and other conveniences like those of a room in a dwelling. The stable itself had all the fixtures for lighting with gas. In addition to most of these arrangements, I observed at the stable of J. Y. SMITH, a gong in the office attached to a telegraph wire from the house, the number of strokes giving various signals to the coachman.

J. J. T.

The Agricultural and Commercial Value of Artificial Manures.

LETTER TO THE COUNTRY GENTLEMAN FROM DR. VOELCKER, CONSULTING CHEMIST TO THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

It may be remembered that in an article published in the COUNTRY GENTLEMAN under date of June 19th, we discussed the above subject at some length,—referring in the course of it to the views entertained by Dr. VOELCKER, Professor of Chemistry at the Royal Agricultural College at Cirencester, England. A copy of the article was sent to Dr. V., who has kindly favored us with the reply copied below. We avail ourselves of the opportunity, in publishing it, to correct an error in our former article: We there stated that Dr. VOELCKER receives a salary of “£150 per annum” from the Royal Agricultural Society of England for making analyses of manures, &c., for the members of that society at a reduced rate—which is correct, except as regards the amount paid. We had before us at the time a financial statement of the Royal Society, and overlooked the fact that the period covered was *six months*, instead of one year; the salary actually paid Dr. VOELCKER by the Royal Society is £300 per year, for services as above, in addition to which he also receives a special grant of £200 annually, for carrying out chemical and agricultural investigations—being a total sum of £500, or \$2,500.

Dr. VOELCKER'S letter is as follows:—

ROYAL AGRICULTURAL COLLEGE,
CIRENCESTER, July 2, 1862.

MY DEAR SIR—With this post you will receive a paper of mine on the agricultural and commercial value of artificial manures, in which I express views co-inciding in almost every particular with those entertained by my friend, Dr. PUGH. You are quite welcome to reprint those parts in your excellent paper which may appear to you desirable to be brought before your readers.

At the time when my paper was published, the manufacture of artificial manure was carried on in England to a very limited extent, in comparison with what it is at present. The trade in artificials then partook more of the character of a venturesome speculation, than of that of a legitimate, well regulated business transaction, and few men of character and possessing sufficient capital and skill, were willing to embark their fortune in a new and hitherto untried undertaking.

The consequence was that at first the manufacture and sale of artificial manures were chiefly carried on in England as it appears to be the case with you at present, principally by men who had nothing to lose and everything to gain, and to whom temporary success was everything, no matter by what means it was obtained.

At that time fraudulent manures were the rule, and honorably prepared, price-worthy fertilizers the exception in our markets. To check the frauds which were practiced upon the unsuspecting farmers of England, I was one of the first analytical chemists who published a valuation table or price list of the various fertilizing constituents which are usually found in manures.

Valuations according to Prof. Way's, Nesbit's, or my own tables—and it matters little to which preference was given—fully answered that purpose. They moreover materially contributed to render the manure trade what it is now in the great majority of cases, a well regulated business, carried on by men of substance, character, and possessing scientific and commercial knowledge and enterprise.

It is only now and then that dealers in downright trashy manures can effect a sale; in the vast majority of cases price-worthy, though by no means equally valuable, manures may now be bought in almost every market town of any importance.

I do not doubt for a moment that the exertions made in your country by my friends, Dr. PUGH and Dr. JOHNSON of Yale College, will bring about a similar desirable change in your manure market, and for this reason feel considerable reluctance to offer any remarks, which may be wrongly interpreted by interested parties. Let me therefore again state distinctly that the valuation tables published by several analytical chemists have been of the greatest service to the farming community. I am bound, however, to state that I never regarded these tables, in conjunction with an ordinary chemical analysis, in themselves sufficient to determine with great precision, the exact price of a manure in so many £, s. and d.

In estimating the commercial value of a manure, an analytical and agricultural chemist should take into consideration many purely practical matters which are too frequently overlooked, and which can never be expressed in figures, nor indeed always in writing. Thus, for instance, the form in which the phosphates are present in a manure should be taken into account. I do not mean that only notice should be taken in an analysis whether the phosphates exist as soluble or as insoluble phosphates, for the difference in the composition, value and efficacy of these two forms is too marked to be overlooked by the merest tyro in chemistry. What I mean is that the conditions should be regarded, in which constituents usually passing under the same name in chemical analysis, occur in a manure. For instance, an analysis showing, say 20 per cent. of insoluble phosphate of lime in a manure, does not give us sufficient data for estimating the commercial value of this valuable fertilizing constituent, for, though all passing

under the name of insoluble phosphates, these constituents may exist in the manure as very fine bone dust, or as coarse, half-inch bones, and in each of the two conditions it is evident bones have a different commercial value. Again, the insoluble phosphates may be present as animal black or bone charcoal, in which shape they have much less value than in the shape of bonedust, or they exist as bone-ash again, another form in which insoluble phosphates occur in manures. Still farther, insoluble phosphates may occur in artificial manures in the shape of apatite, sombrero phosphate, coarse coprolite powder, and other phosphatic minerals. Although in the form of such minerals insoluble phosphates have a certain value to the manufacturer, who converts them, by means of oil of vitriol, into soluble phosphates, they are of scarcely more utility to the farmer than sand, because they cannot be appropriated by plants, and for this reason, when present in a manure *in this shape*, are of no commercial value to the consumer.

Nitrogen is another constituent which may be present in half a dozen or more different forms, differing widely in their agricultural and commercial value. Thus in the shape of shoddy or wool refuse it takes years before the nitrogen of the wool becomes sufficiently available for the use of plants. Scarcely more useful is the nitrogen in leather refuse. In hide clippings, and various other animal refuse matters, we find nitrogen, but while in one refuse the nitrogenous matter is readily decomposed, in another it remains for a long time inert in the soil, and therefore in the latter form nitrogen possesses less commercial value than in the former.

Again, nitrogen may exist in the shape of an ammoniacal salt, or as guano; and again its agricultural, as well as its commercial value, are modified. It is therefore unreasonable to allow the same price for the nitrogen which in different manures may occur in so many different conditions. Moreover, the state of preparation of manures greatly affects their value. Is the manure dry, or wet? Is it very fine, or coarse and lumpy? Is it uniform in composition, or not? Are the component parts of a manure and their relative proportions in a manure, really useful for the purpose for which they are recommended? What facilities are there in a particular locality to obtain artificial manures? And many similar questions require to be answered, before anything like a just estimate of the value of a manure can be given. In short, a considerable amount of commercial and agricultural knowledge, as well as great experience, and the fixed determination neither to favor producer or consumer, are qualifications quite as essential as analytical skill and ability of calculating a rule of three.

I should much regret if these remarks should have the effect of leading men to the conclusion that the analysis of Artificial Manures is of no use. Only designing or ignorant men can utter such a preposterous sentiment, and my advice to farmers is to have no dealings with manure dealers who give expression to such a sentiment, for they know, or ought to know, better.

Chemical analysis is of the highest practical utility, and just because I feel that our "manure calculators" are apt to bring chemistry into discredit, I am anxious to place the real money valuations in their right light.

Without a correct analysis not even an approximate estimate of the value of a manure can be given, but for reasons just now stated, other circumstances ought to be taken into consideration, in addition to the mere percentic composition of manure before our opinion of the value of a manure is given.

Allow me in conclusion to notice that in my capacity of

Consulting Chemist to the Royal Agricultural Society of England I have had abundant opportunities of recognizing the high esteem in which chemical analysis is held by the British farmer at the present time.

Believe me, Yours very truly,

AUG. VOELCKER.

The paper by Dr. VOELCKER on the Agricultural and Commercial Value of Artificial Manures, referred to in the foregoing letter, was originally published in the "Bath and West of England Agricultural Journal," in 1855. It is very valuable and interesting throughout, although our extracts from it, at this time, must be quite brief. If occasion should offer hereafter, we may make farther drafts from the same source.

Money Value Indicated by Analysis.

The question, how much money is an artificial manure worth? is one of paramount importance to the farmer; and happily it is one the solution of which chemistry greatly facilitates. Any good analytical chemist can ascertain the exact amount of the different constituents of the manure, and knowing the market price at which they can be obtained separately, he is enabled to calculate with tolerable accuracy its commercial value. In chemical analyses the farmer therefore possesses a *sure means of ascertaining before effecting a purchase whether the price demanded is reasonable or exorbitant*.

It would lead us too far to enumerate all the reasons which could be assigned for fixing the price of some of the more frequently occurring manuring substances which follow. However useful the subjoined table may be to the practical man, considerable latitude must be allowed in estimating the real commercial value of an artificial manure; and as all articles of commerce are subject to considerable fluctuations, it follows necessarily that the price list subjoined can have no permanent value:

Table for determining the Money value of Artificial Manures.

1. Nitrogen in the form of ammonia.....	8d. per lb.
2. Nitrogen in animal or vegetable substances.....	6d. do.
3. Nitrate of soda.....	2d. do.
4. Phosphate of lime (bone earth).....	1d. do.
or phosphoric acid alone.....	2d. do.
5. Soluble phosphate of lime, or bi-phosphate of lime.....	4½d. do.
6. Salts of potash.....	1½d. do.
7. Gypsum.....	1d. per 10 lb.
8. Lime.....	1d. per 12 lb.
9. Carbonate of lime.....	1d. per 25 lb.
10. Magnesia.....	1d. per 10 lb.
11. Organic matter (humus).....	1d. per 20 lb.
12. Common salt.....	1d. per 10 lb.

For all practical purposes the determination of the value of the remainder of the substances which are usually indicated in the analyses of artificial manures, such as oxide of iron, alumina, silica, may be entirely neglected.

It is surprising that farmers, whilst they possess in chemical analysis a sure means of having the money value of an artificial manure correctly ascertained, should more generally be guided in their purchases by printed testimonials. These testimonials are often fictitious, and, even when genuine, cannot be relied upon in estimating the real money value of a manure. Under favorable circumstances, the application of the most worthless manure occasionally is attended with an abundant crop; and as the dealer or manufacturer takes good care to select for publication only those opinions which are favorable to the sale of the manufactured article, and does not tell us how many expressions of opinion he has received, which, when published, would damage his business, it is evident that little dependence can be placed on printed testimonials.

Mr. HORACE L. EMERY, of the Albany Agricultural Works, sailed for England on Saturday last, with the view of establishing more direct commercial relations with customers in Great Britain and her Colonies, and to introduce his Machines, if possible, to more extensive use in Europe. This journey has been for some time in contemplation, and we trust its results may more than equal the anticipations that have been entertained. There is no better field for the proper employment of American energy and inventive genius.

Henry Wells' Grape House at Aurora, N. Y.

Much interest has been induced among grape-growers in the new mode of constructing vineries, described and recommended by William Bright of Philadelphia, in his recently published work on this subject. Without wishing to discuss the merits of this mode at present, we think our readers will be interested in a brief notice of the very successful experiment made by HENRY WELLS, Esq., of Aurora, N. Y., under the careful management of James H. Cruise, his gardener. He has erected a small structure, 25 by 50 feet, with a curvilinear roof, and octagonal ends, surmounted by a ventilating top, the whole forming a neat and beautiful building. It contains fifty vines, now twenty-one months since they were transplanted into the vinery, and having already ripened early in summer, many bunches of excellent fruit.

In constructing the house, a cellar was first dug and walled, about three feet deep. A floor was then laid of hard burnt brick, and brick placed on edge supporting another brick floor, with a space of air between the two, equal to the breadth of the brick supporting the upper one. On this upper floor, compartments were made of brick, around the whole interior, each compartment for its vine being $2\frac{1}{2}$ feet square, and holding half a cubic yard of soil. Next within this row of compartments, a walk or lattice passes around the house. The interior portion is occupied with grapes in pots, and also with early vegetables, this space being about 10 feet by 40. A good supply of string beans was obtained the present season fit for use about the time that gardeners usually plant in open ground. Grapes in pots, four feet high, were loaded with about ten luxuriant bunches each, the vines being three years old. Some beautiful ornamental plants in pots, placed in the centre, added to the interior appearance of the grapery. A cistern beneath furnishes an abundant supply of water. Hitching's hot water apparatus for heating the vinery and the adjacent small green-house, consumes about 12 tons of coal annually. During the period of most rapid growth, early in the season, each vine evaporated about two gallons of water each 24 hours. The time required in attendance has not exceeded more than one or two hours daily, the pinching, training, &c. being done chiefly on rainy days when work could not be performed without doors. The soil for the brick boxes is a mixture of manure, bone-dust, and old decayed animal matter, all in compost several years. A large share needs annual renewing, and the labor and care are greater than that required for a common vinery; but for early productiveness and abundant supply, this far exceeds them.

The vines were planted in November 1860, and commenced their growth in February following; they are now stout and vigorous, and cover the whole interior of the glass. Each has borne and ripened several fine bunches of grapes the present season. The gardener thinks he can raise a thousand pounds next year, and the proprietor gave it as his opinion, that as a matter of dollars and cents, a good profit might be derived from such a grapery. He expects to obtain an abundant family supply, immediately following early strawberries.

HERKIMER CO. CHEESE.—During the week ending July 9, 3,653 boxes of cheese, weighing 264,125 pounds, were delivered at the depot at Little Falls, for shipment east. This, at 8 cents per pound, would amount to \$21,130.

SUMMER PRUNING HEDGES.

It should be constantly borne in mind, in all operations with trees, that a heavy lopping of leaves during the period of growth, always gives a more or less severe check to the growth. Some trees, as the Peach and Osage soon recover in a considerable degree from this check—with others, having less power to reproduce fresh shoots, it is nearly fatal. Osage hedges, which have been allowed two or three years to become strongly established, may receive a midsummer cutting back to thicken growth, the gain in thickening being greater than the loss by a check of vigor. It is, however taken for granted that the previous management has been right, or such as to produce a broad thick base, with a thinner and narrower upright growth; consequently, in cutting off this upper portion, at least one-half or two-thirds of the leaves are still usually left. A severer cutting back would be apt to prove nearly fatal to other hedges than those of the Osage Orange. It is the summer pruning that occasions much of the serious check or death of shoots seen on other hedges, and ascribed to "unknown and mysterious causes."

Instead of shearing off a smooth surface, so as to make hedges look like a wall, it is better to give them more of a natural and a less artificial appearance, by merely cutting back all the long shoots, and suffering the weaker and shorter to grow—giving the surface a more irregular and richer appearance. It is especially necessary to keep the top narrow, and the bottom as wide and free growing as possible.

HARD WAYS OF DOING THINGS.

The cultivator of fruit should always bear in mind that the best way to get rid of destructive insects is to *kill* them. The various remedies, short of this course, are often more expensive or laborious than direct slaughter, and commonly inefficient at best. As an instance, we see the old remedy of tansy for the peach-grub going the rounds of the papers again. This remedy may be efficient, yet while the owner of an orchard of a thousand peach trees is setting out a thousand tansy plants at the foot of his trees, and nursing and protecting them, to say nothing of the impediment they would constantly occasion to good cultivation, he might go over an orchard of ten thousand trees and with the point of his knife destroy every grub in the bark, the external indication of which, by gum and sawdust, quickly enables him to know where to look. We know by experience that a single hand will effectually clear many hundred trees in this way in a single day; and a repetition of the work too or three times a year will keep an orchard clear, where the insects are abundant.

There are many other illustrations of the same principle, such, for example, as syringing young fruit trees with lime, tobacco, &c., to repel the curculio, the labor of such repeated application being generally greater than that of killing the insect by the jarring and pinching system. There are a few instances where insects may be destroyed by wholesale, as, for instance, the aphids by soap suds, and the currant worm by dry caustic lime; but there are also many others where it would be more profitable to hire a man to pick worms and bugs by the day, with his thumb and finger, than attempt to frighten them away by outside influences, whether it is scare-crows for birds, miasms for mosquitoes, or pellets of soft grass for pilfering boys. An active man or boy will capture singly 20

insects a minute when they numerously infest shrubs and bushes, which is 1,200 an hour, or 12,000 a day, and is more efficient than offensive nostrums, that often do more harm to vegetable growth than to thick-skinned worms, and hard shelled beetles. Where insects may be shaken into vessels of hot water by wholesale, such a mode is, of course, to be preferred. We have nearly always found direct attack the best way, and very few days' work in the aggregate will keep most gardens clear of them.

HORTICULTURAL INQUIRIES.

Pear Trees and Woodchucks.

MESSRS. EDITORS—I set out a small pear orchard last spring, consisting of 40 standard Bartlett and 10 Flemish Beauty, all of which have lived but three. The land is a sandy loam with some limestone rock. It is good for either grass or grain. After setting them out, I drew out three loads of coarse horse manure, consisting chiefly of rye straw with which the horses had been bedded, and placed it around them for a mulching. The ground is on quite an elevation, and is greatly infested with woodchucks, which are making considerable havoc among the trees by tearing up the bark with their teeth, and I am fearful if I find no remedy for them, they will destroy most of my trees. The ground has not been plowed up within three years, but it is my intention to do so next spring. As I have had but little experience in pear culture, I would like to know what varieties of the standard are the best for market purposes, and of the dwarf also, and the time that is required for standards and dwarfs to come into bearing. It would be a great accommodation also if I could obtain a receipt of some composition, the application of which would prevent the ravages of the woodchuck.

Fishkill, July 14, 1862.

A NEW SUBSCRIBER.

It would be much better to set out trees on land that has been reduced to a fine mellow condition by thorough and repeated plowing. Setting in grass land is a bad practice, although a heavy mulching may serve partly to lessen its bad effects for a time. Tarring the stems is hazardous at best, and often kills trees. A better way to protect from woodchucks would be to encase the stem in a broad box, made by setting either three or four boards vertically about the stem and tacking them together. Or, tying about them a mass of brier cuttings, or trimmings of an osage hedge, would probably effect the same purpose. Possibly a coating of tobacco and lime mixed, or other offensive substances, might keep off the woodchucks, but we do not know how great an abhorrence they have for the odious weed. As it would require renewing when washed off by rains, the other remedy would perhaps be best. Shooting the animals would be efficient. The best varieties of the pear raised as standards for market purposes, are Bartlett, Flemish Beauty, Howell, Sheldon, Onondaga, Virgalieu, Lawrence, Buffum and Clairgeau. *Dwarfs*—Louise Bonne of Jersey, Duchess of Angouleme, Diel, Glout Morceau, &c. Standards mostly begin to bear from three or four to ten or twelve years after setting out; some sorts much sooner than others; those badly managed or neglected may never bear. Dwarfs, if well managed, begin to bear in two or three years.

Propagation of Fruits, &c.

Will the wild plum, which is indigenous here, do for stocks to graft improved varieties on? (1.)—Would you recommend budding or grafting fruit trees, and why? (2.)—Will the seeds of strawberries—improved varieties, such as Wilson's Albany, Triomphe de Gand, &c., if planted, bring forth plants of the kinds or varieties as the parent plant? (3.)—Can you inform me of some work on the culture and propagation of the raspberry and blackberry? (4.)—Which is the best method of preparing the

seeds for the nursery-beds, of the American Arbor Vitæ, the pine, and other evergreens? (5.)

M. R.

1. The wild plum is generally used by nurserymen for making dwarf plum trees, those worked upon it not growing quite so large as on the common stock. They usually succeed well; and on light soils, where the common plum stock does not grow well, the wild plum is often very successful.

2. Budding and grafting have their several advantages, according to circumstances. Both succeed well for the apple, pear, plum, and cherry. Grafting does not answer for the peach and nectarine, while budding is very easy and successful. Budding always requires a free growing stock, where the bark will lift or peel freely; for this reason grafting must be resorted to for stunted or old stocks or trees. Nurserymen generally use budding for extensive propagation, as it is simpler, more rapid, and is performed at a time of year when other work does not interfere. Grafting is often more convenient for a few trees, obviating the necessity of watching for the removal of the ligature, and of heading back the following spring.

3. Seeds of strawberries produce plants different from the parent, with occasional or chance plants closely resembling them. The strawberry propagates itself with such rapidity, that there can be no object in adopting the more difficult mode with seeds, except for obtaining new varieties. The best mode is by crossing two good varieties; or in other words, taking the seed from any fruit of a pistillate sort, which is always a cross, some other variety having been used as a fertilizer.

4. Pardee's work on the Strawberry, &c., will probably answer.

5. The seeds loosen and come out freely when the cones become dry, and are then ready to plant.

Propagation of Currants and Gooseberries.

I wish to increase my currant bushes. How shall I proceed to do it from cuttings, and in what time of the year? I have a few of the Houghton Gooseberry bushes, and like them so well I wish to increase them. How and when can I do it and succeed? These berries do not mildew. But the English varieties are all black and lost. Bushels of them are on the bushes, good for nothing. C. G. T.

To propagate the currant, take off cuttings of the yearly shoots six inches to a foot long, cut close to the old wood, and plant early in the spring, two-thirds of the length in the earth, which should be solidly packed about them. Most of them will grow and make good plants. The cuttings may be taken off very early in spring, or the previous autumn, and kept right in damp moss in a cellar during winter. Gooseberries may be treated in the same way, or they may be layered. Thick, bushy currants and gooseberries, with young vigorous sprouts, with the earth banked up about them part way up the stems, will throw out roots into this earth, and may be afterwards separated into rooted plants, and trimmed for setting out.

A Small Hint.

By the settling of buildings, or the swelling of doors, the latter often stick at top or bottom, and are hard to open. We have seen a great deal of hard pulling and jerking, and kicking to open such doors, greatly at the risk of breaking hinges, pulling off knobs, twisting doors, and destroying patience and equanimity. The observation of a simple rule will save all this trouble and disaster: When the door sticks at the top, bear downwards on the handle in attempting to open; and when it sticks at the bottom draw upwards.

DEPTH FOR PLANTING SEED.

A great deal depends on the right depth for planting seed. It must vary somewhat with the nature of the soil, its condition as to moisture and pulverization, and other causes. If every farmer would spend one day in each year in experiments to determine the best depth, the knowledge thus gained would soon be worth hundreds of dollars to him. Five dollars worth of labor, expended in such experiments would doubtless return five thousand per cent. dividends. It would be well therefore to make the investment.

In illustration of the importance of the right depth, we mention a single experiment. A hired man was directed to plant some beet seed, but instructions were omitted as to the right depth. It was found afterwards, that, determined to do the work well, he buried the seed three to four inches deep. The error was corrected in time to have a part planted an inch and a half or two inches. The first did not come up at all; the second but feebly and sparingly, and "bad seed," and "dishonest seedsmen" were suspected. Having a little seed and a strip of spare land left, the rest was planted some time afterwards. Little pains were however taken with supposed bad seed, and it was scattered carelessly on the surface, and covered an inch or less in depth. It came up profusely; and a lesson was learned as to depth, and the character of the honest seedsman retrieved.

There is no doubt that the complaints that have been made in this journal, within a year or two, of the bad effects of *drilling in wheat*, instead of sowing broadcast and harrowing, have arisen from putting in the seed too deep. In order to investigate this question further, a series of experiments were commenced the past spring under our direction, by a careful hand, and his report below is fully corroborated by our occasional personal examination of the ground.

The following experiments were made on the depth of planting wheat, the soil a sandy loam, sufficiently moist for free vegetation—the depth being carefully measured, and the soil laid on the seed in an even stratum:—

WHEAT—planted May 21—

$\frac{1}{2}$ inch deep,	Came up in 5 days.
1 do.	do. 6 do.
2 do.	do. 7 do.
3 do.	do. 8 do.
4 do.	do. 10 do.
6 do.	do. 12 do.

Five weeks afterwards, there was no perceptible difference in that planted half an inch and an inch deep; that planted two inches deep was not quite so good; and so on decreasing in quality as the depth of planting increased. At six inches depth, there were but very few slender stalks.

CORN—planted May 21—

$\frac{1}{2}$ inch deep,	Came up in 8 days—1 inch high in 10 days.
1 do.	do. 8 do. — $1\frac{1}{2}$ to 2 in. high in 10 days.
$1\frac{1}{2}$ do.	do. 9 do. { and looking much the best.
2 do.	do. 10 do.
3 do.	do. 11 do.
4 do.	do. 12 do.
5 do.	do. 13 do.
6 do.	do. later, day not observed.

About all the grains grew, although the deep ones were so much later in reaching the surface. Five weeks afterwards there was no perceptible difference in those ranging from half an inch to two inches in depth, but the others were of feebler growth as the depth increased.

OATS—planted May 22—

$\frac{1}{2}$ inch deep,	Came up in 5 days.
1 do.	do. 5 do.
2 do.	do. 6 do.
3 do.	do. 9 do.
5 do.	do. Later, time not observed.
6 do.	do. Later, time not observed.

After five weeks, no difference was observed in half an inch to two inches in depth—quality decreased as the depth increased afterwards.

BEANS—planted May 21—

$\frac{1}{2}$ inch deep,	Came up in 9 days.
1 do.	do. 9 do.
1 do.	do. 10 do.
$1\frac{1}{2}$ do.	do. 11 do.
2 do.	do. 12 do.
3 do.	do. day not observed
4 do.	do. do.
5 do.	do. do.
6 do.	do. Did not grow at all.

Five weeks after planting, there was no difference in those half, three-fourths, and an inch deep; at two inches depth they were not quite so vigorous; but few came up at three inches depth, very few at four inches, and none at all at greater depths.

From all these experiments we may infer, that the best depth for wheat in mellow, moist, moderately light soils, is not much over one inch deep; for corn, one inch or an inch and a half; oats, about the same or a little deeper than wheat, and beans not over an inch, and never in any case over two inches.

We may report further in future on the growth of these plants.

PEACH LEAF CURL.

The editor of the Horticultural Department of the Rural New Yorker, in noticing the prevalent opinion that the curl is occasioned by an aphid, says, "We have not the least idea that the curl is caused by any insect, although Prof. Harris thought it was occasioned by an aphid, and Mr. Downing agreed with this opinion." In corroboration of this view of our contemporary, we may state that we have examined the leaves of the peach with a powerful achromatic microscope, in every state from the delicate translucent organs just unrolling into existence, to the broad, thick, fully grown leaf, and have found the disease distinctly marked in all these different stages of growth, whenever the season was favorable to its development. *It appears to begin inside, precisely like the rust in wheat*, and afterwards to extend to the outside of the leaf; and from all we have yet seen we incline to the opinion that it is a minute parasitic fungus. The Rural New-Yorker says "one day of cold rain or cutting wind will produce the curl in every orchard, and those sheltered by hills and woods are found to be less exposed to the curl, and the exposed side of an orchard more injured than others. In sheltered gardens trees suffer very little." To which we may add that trees kept in a state of luxuriant growth by good cultivation are least affected.

[For the Country Gentleman and Cultivator.]

Remedy for Worm in the Top Onion.

Accident often leads to important discoveries as in the following case:

An old lady in the neighborhood, proverbial for having a good kitchen garden, had by accident her top onion seed fall into her pork brine, and must have laid there some forty-eight hours before being discovered, and being the only package of onion seed she had, insisted on setting them out, when to her surprise every one grew, and she says she never raised better onions, or onions perfectly free from the worm.

We would suggest that the seed be soaked in milk-warm brine forty-eight hours or more previous to setting out, thereby hastening their growth by way of sprouting.

Salt composted with manure must be good—also an occasional watering with salt water.

Stanstead, Canada East.

GEO. BACHELDER.

A Glance at the Farm of Ezra Cornell.

I lately spent two or three hours in a visit at this beautifully situated farm, at the head of Cayuga Lake. It lies between the Cascadilla and Fall creeks, some two or three hundred feet above the village of Ithaca, and commands a magnificent view. The whole of Ithaca is in view, mapped out in the valley below. Beyond it to the west, a broad slope of several miles is covered with many luxuriant farms;* to the south the amphitheatre is bounded by a high range of blue hills, while on the north nearly one-half of the entire surface of Cayuga Lake, for some twenty miles, is spread out below, enclosed in the sloping ridges of the rich farming regions of three adjacent counties.

This farm contains about 300 acres of excellent land. It has been occupied by its present owner only five or six years, and improvements are of course only in progress. In the present absence of the proprietor in Europe, his son takes charge of its management. The great point of attraction is the excellent herd of thorough-bred cattle. There are at present about 45 head of full-blooded Short-horns, and 10 Devons. On looking among them, I was struck with the uniform excellence of form which they exhibited—owing, as I suppose, to the adoption of the practice of disposing at once of all poor ones. One of the best Short-Horn bulls is the Duke of Oxford, which has received two first prizes at (different ages,) from the New-York State Agricultural Society. There are some other younger animals scarcely if any inferior. A young bull calf, from a Kentucky cow, by the Duke of Oxford, is an animal of great promise. Some of the cows, in addition to their fine appearance, have high milking qualities to recommend them—one of them has given fourteen quarts at a milking. None of these animals are high fed, but receive the same treatment that good farmers generally give to their herds.

There are about 100 head of cattle and horses in all upon the place, and they manufacture over a thousand loads of manure annually, in addition to which a considerable amount is drawn from the village. The increasing crops are beginning to tell the benefits of such treatment. About 200 acres are occupied with pasture, meadow and woodland, and the remaining 100 with grain. Manure is applied both as a top-dressing to grass and plowed in for grain; the latter is regarded as most efficient or economical. Plaster proves highly beneficial. I was shown a hill lot occupied with clover, across which belts of plaster had been sown. The clover was at least double in growth, and in some places more than double; and the deep green which the plaster imparted to these belts was so conspicuous, that some of them were visible from the steamer on the lake, on my return, at a distance of two or three miles.

The construction of stone walls for fences, of the most substantial character, has been commenced. The stone is quarried on the farm, and the whole expense of quarrying, drawing, and erecting strong and smooth-faced walls, is five dollars per rod. It furnishes employment to laborers in winter. Over 100 rods of this excellent wall had already been constructed.

On my way to this farm, I called at a portion of the nursery grounds of JAMES M. MATTISON, (whose principal nursery is at Jacksonville, 8 miles distant,) and examined

* Among the rest, and distinctly visible two or three miles distant was the excellent farm of H. Purdy, who has 90 heavy acres of wheat but which I could not visit for want of time.

his fine pear seedlings. He has over 60,000 in a vigorous state of growth, many of them already a foot high, with no indications of leaf-blight on any part of the grounds. They promise to be equal to the best imported from France. The ground they occupy is a rich heavy alluvion, which has been well manured for six successive years. Those which were raised last year on similar land, proved on examination to be of vigorous, healthy, well-ripened growth, with a good supply of fibrous roots.

The steamers on Cayuga Lake have all been recently purchased by A. B. CORNELL, (son of Ezra Cornell,) and during the summer season, form connections with most of the trains on the N. Y. Central Railroad by Auburn. A three hours ride on the water, from Union Springs to Ithaca, and the same in the afternoon, in returning, gave me three hours at the farm. J.

CEMENT PIPES.

J. N. GARRETSON inquires for the best mode of constructing hydraulic cement pipes. There are two distinct modes in practice—one, forming the pipes simply of water lime cement, with a bore through it; and the other, laying small tubular tile surrounded with the cement. In either case the water lime must be of undoubted quality, which has been proved, and the sand clean, coarse and sharp; these must be well mixed dry, and moistened as needed. The easiest mode is to use tile where it can be had, the smaller the better, an inch and a fourth bore would be just the thing. We have used an inch and three-fourths with success. This mode answers well where there is a considerable flow of water, and no much head or pressure at any place. The ditch was cut to a narrow and smooth trough at the bottom; then an inch of freshly prepared cement or mortar spread quickly and solidly along it. The tile was then laid closely end to end, and pressed a little into the mortar. Then with a trowel the sides and top were covered with the mortar about three-fourths of an inch thick. A rope covered with cloth so as to be just large enough to fit the bore, was drawn forward through it as the work progressed, to wipe out the inside smoothly, and to prevent mortar from protruding through the cracks. After drying enough, say a few weeks, the ditch was filled with earth. It has been about two years since this pipe was laid, and it is now as hard as stone, the cement being much harder than the hard burnt tile, and would now bear considerable pressure—the first year it would not. The smaller the tile the less is the danger of bursting under a head of water, the less cement is needed, and the cheaper the construction. A moderate share of skill will make a good pipe in this way.

The other mode consists of laying a mass of cement around a plug or cylindrical piece of wood, which is drawn along as the work progresses, leaving a bore in the hardened mass. The chief care is to draw the plug gently, and at the right time to prevent any cracking of the cement. The new mode of using India rubber tubes for forming the bore to be kept inflated with air except at the time it is withdrawn, would obviously prevent cracking better than the common mode.

☞ We learn that Hon. A. B. CONGER is to deliver the Address at the Westchester Co. Fair, Sept. 25.

WHAT IS IT?—The Cape Cod Republican says the cranberry crop in that vicinity has been much injured by a peculiar blight. A gentleman who expected to raise 1,000 bushels, will not gather more than 300 bushels.

ITEMS IN FOREIGN AGRICULTURE.

PREPARED EXPRESSLY FOR THE COUNTRY GENTLEMAN.

At a sale of Shropshire sheep July 21st, near Leamington, England, two rams were sold at 21 and 17 guineas respectively. Forty-seven rams were offered, and forty sold at an average of £7 9s. each.

Great Britain now pays about £250,000 a year, mainly to Normandy, Brittany and Picardy in France, simply for Eggs—the importation of eggs into that country having risen to 163,000,000 per annum, as compared with 60,000,000 thirty years since.

At a letting of "Improved Cotswold" rams, July 24th, at Marham Hall, 60 "shearlings" (that is yearlings) averaged £9 14s.4d. each, and 20 "two-shears," £8 4s. each. The "improvement" consists in "a happy combination of great size, heavy wool, and excellent quality, having the size of the Cotswold, with the heavy fleece of the Lincoln, and quality enough for the most fastidious."

The Russian Government has just bought of Mr. Charles Howard of Biddenham, Bedford, two young Short-Horn bulls of his breeding, also five rams, and his Battersea pen of Oxford-Down ewes, and with them twenty-three South-Downs selected at Woburn Abbey, and some black pigs from the Messrs. Druce of Eynsham, Oxon.

The Irish Farmers' Gazette gives the following as an approximate rule for obtaining by measurement the dead weight of cattle:—Take the girth in inches behind the fore-arm, square it, by multiplying it by itself; multiply that product by the length, taken in inches, from the top of the shoulder to a line perpendicular to the buttocks; multiply that product by the decimal .07958, and divide it by 576, which reduces it to stones of 14 lbs. each, 8 of which make 1 cwt.

In Ireland, up to August 1st, potatoes are reported as generally looking very well, "and the quality when dug excellent; but to see a good field of turnips or mangels is very rare—as a rule, they are very late and backward." The hay crop is said to be up to, if not beyond the average.

Among the products shown by Costa Rica, Central America, in the Great Exhibition, are samples of coffee, rice, beans, sugar, cocoa, tobacco, and cotton; tanned and untanned skins of the tapir and jaguar—also large sheets of caoutchouc, remarkable for superior quality, and balsams, gums, sarsaparilla, &c.

Agricultural Statistics are now annually collected in New South Wales—proving that, as a general rule, the younger a country is, the more highly it appreciates the importance of enterprise, and of knowing how to direct that enterprise to good advantage. The returns under date of March 31, 1861, show an average produce of wheat there, of about 16 bushels per acre, and of maize over 30 bushels. On 622 acres of vines the produce was 99,719 gallons of wine, and 709 gallons of brandy.

During the week ending July 26th, France was favored with fine harvest weather, and great progress was accordingly made in securing the crops. Consequently there was a considerable decline in the value of flour in the Paris market. Indeed the advices received during the last ten days of July, respecting the growing grain and harvest work, in Europe generally, were more satisfactory than for some weeks previously.

A large extent under a Beet crop is mentioned on the estate of a royal Russian farmer—Lieut. Gen. Prince Vasilchikoff, a member of the Imperial Agricultural Society of Moscow, who possesses in the government of Tamboff,

the village of Spassky, situated at from 20 to 50 miles from the 7 towns of the district, and upon it a steam sugar-producing establishment, and also a refinery, worked with hired laborers. The principal farm, extending over some 1,900 acres, hires its laborers by the year, and the field work is executed with the horses of the proprietor, and with improved implements. Between 600 and 700 acres have been sown this year with beet root, and the remainder with forage.

Sir Edwin Landseer has entered his public protest against the ear-cropping or other mutilation so commonly practised on dogs—as destroying the beauty of the animal, giving it an appearance which nature never intended for it—and as a matter of cruelty, not only from the pain of the operation, but also in depriving the animal of a defence which nature has given to it against the entrance of earth and sand into the ears. The entrance of these into the ears, he says, distresses the dog much, causing deafness, abscesses and cancer, and adds that public opinion should no longer "sanction such gross treatment of the animal, and that the Society for the Prevention of Cruelty to Animals should look to the practice."

During the year 1861 there were imported into London from abroad, about 50,000 beeves, 23,000 calves, nearly 300,000 sheep, and 20,000 pigs—Holland and Denmark supplying three-fourths of the cattle, and Holland alone nearly all the calves, two-thirds of the sheep, and three-fourths of the pigs.

A recent English traveller in Palestine reports to the Gardener's Chronicle, the measurement made by him of eight of the oldest Cedar of Lebanon trees he could find on a tour projected for the purpose of examining them. The circumference of each was taken at a height of three feet above the ground, and resulted as follows:—

No. 1.....	29 ft. 8 in.	No. 5.....	40 ft. 0 in.
No. 2.....	36 ft. 9 in.	No. 6.....	33 ft. 4 in.
No. 3.....	28 ft. 0 in.	No. 7.....	22 ft. 0 in.
No. 4.....	38 ft. 10 in.	No. 8.....	21 ft. 0 in.

As to the efforts now making in other countries toward extending the cultivation of the Cotton plant, it may be mentioned that we find in a single number of one of our late foreign exchanges, five separate articles of more or less length touching upon the subject, in as many different countries, viz.: India, Algeria, Australia, Italy, and Egypt. In the last mentioned country, as well as in India, already considerable has been done, while, in the other three, cotton-growing must yet be viewed rather in the light of an experiment. It seems that for four seasons past Egypt has grown enough to average shipments of nearly 130,000 bales a year from Alexandria, (5 cwt. each,) while the amount for the past year was 150,000 bales, and a much heavier crop is looked for during the year to come. In Australia the government offer a grant of land equal to £10 per bale for every bale of cotton exported during this and the next year, after the expiration of which the premium will be reduced to £5 per bale. In Algeria we believe the French government is also offering special inducements to promote the introduction of its culture on a large scale.

A SWARM OF BEES ON A MAN'S HEAD.—A most singular incident occurred in Bridgewater, Mass., a few days since, illustrating the peculiar habits of bees. Mr. A. P. Benson, noticing an unusual stir among his hives, proceeded to examine into the cause, whereupon an entire swarm withdrew from their old hive, and settled upon his head and shoulders. Mr. B., without any serious inconvenience, succeeded in transferring the swarm safely to a new hive.

The Entomologist.

[For the Country Gentleman and Cultivator.]

No. 32---THE ASPARAGUS BEETLE.

The asparagus is justly characterised as "one of the oldest and most delicate of culinary vegetables, no less praised in ancient Rome, by Pliny, Cato and other writers, than at the present day." (*Wood's Botany*.) This plant grows wild in the maritime districts of the middle and southern parts of Europe, and there, in its native locality, are several kinds of insects which feed upon it, and which are pests to the gardeners of those countries. Much the most common and hence the most destructive of these insects is known by the name of the Asparagus Beetle.

Of the group or genus *Asparagus*, some two dozen species are known to botanists. About half of these are found in the vicinity of the Cape of Good Hope; the rest occur in southern Europe and the East Indies.

Being thus numerous and widely diffused upon the Eastern continent, it is rather remarkable that no plant of the asparagus kind is found in any part of America. And consequently, we have no insects here which feed on plants of this nature. Therefore, when the garden asparagus was brought here from Europe, it was able to grow with us without injury or molestation from insect enemies. It is now in universal cultivation, everywhere through the United States, north and south. Yet neither of the insects which depredate upon it in Europe has ever been met with in this country, nor do any of our American insects attack it. Thus it has been our happy lot to grow this one valuable plant, wholly free from the annoyance of seeing it marred and mutilated by those insect depredators which give us so much vexation and trouble with about every other kind of vegetation which we attempt to cultivate.

But an insect devouring the asparagus has at length made its appearance on our shores. DANIEL K. YOUNGS, of the Queens County Agricultural Society, in a letter to the COUNTRY GENTLEMAN, dated Matinecock, June 16th, says:

"With this I send some insects which have been eating the asparagus since the middle of May, and continue at this time in such numbers as to destroy in some localities nearly half the crop. Soon after the bugs made their appearance, they commenced depositing eggs upon the young shoots. These eggs in a short time hatch out a dark colored worm, which, as well as the parent bug, lives entirely upon the young shoots, mutilating and in most cases destroying them. As this is the first insect that has injured our asparagus, we are anxious to know what it is. * * * I hope you will give the insect your attention, as it threatens to destroy this valuable long island crop."

This remittance, forwarded from Albany, reached me June 24th. In the box, with slips of asparagus which had become moldy and semi-putrid, I found a dead beetle, three living larvæ, and several black grains which the microscope showed to be minute larvæ which had hatched from eggs which had been inclosed in the box and had perished. The three large larvæ, placed on a fresh slip of asparagus inserted in a vial of water upon my table, fed thereon with evident relish, until on the morning of June 30th they had disappeared—indicating that they do not fasten themselves to the plant to become pupæ, but leave it and enter the earth—which in this instance, being within doors, they would perish before they would find.

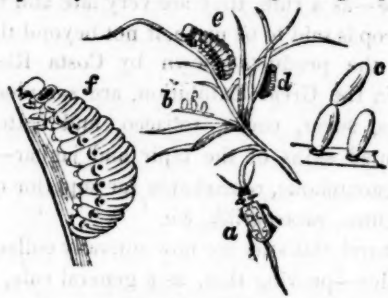
The beetle in the box, on a moment's inspection, was found to be the noted Asparagus beetle of Europe. It is a species so peculiarly and plainly marked that any one accustomed to examining insects will not be liable to mis-

take it. But that the reader may be more fully assured that my judgment upon this important point is correct, I may state that I have in my hands specimens of the European Asparagus beetle, received from Mr. Westwood, London, and also from Andrew Murray, W. S., Edinburgh, which specimens enable me to be positive that the Long Island insect is the same.

I will now present a brief history of this insect, with such a description of the beetle and its larva as will suffice to enable any one to clearly identify them when found upon the plant they inhabit.

The Asparagus beetle is scientifically named *Crioceris Asparagi*, its specific name having been given it by Linnaeus a little over a hundred years ago. The generic name, *Crioceris*, was suggested by the horns or antennæ of some of the insects of this group, which have some resemblance to a braid of hair or a twisted cord. They pertain to the order COLEOPTERA and the family CRIOCERIDÆ. Of this genus, *Crioceris*, we have several species inhabiting the United States. One which the reader will be most apt to know, is the Three-lined leaf-beetle, (*C. trilineata*), a common insect upon potato vines, and much resembling the yellow striped bug upon cucumbers, but differing in not having the head black.

The Asparagus beetle closely resembles this of the potato in its form and size, but not at all in its colors. In the annexed cut at *a*, it is represented its natural size, its length being a quarter of an inch or a little less. It is a beautiful insect, of a shining blue-black color, with the thorax bright tawny red, and on each wing cover are three lemon-yellow spots placed in a row running lengthwise. The wing covers are further ornamented with an orange-yellow border upon their outer sides, and the middle and hind spots have their outer ends united with this border. The under side, the legs and antennæ, are black. The insect varies in having the spots on its wing covers sometimes larger, whereby the anterior and middle spots become united together. On the thorax, too, there are usually two small black spots, which are sometimes larger and more or less completely united into a single large spot.



ASPARAGUS BEETLE.

a. The beetle, natural size. b. Its eggs. c. Its eggs magnified. d. The young larva. e. The larva full grown. f. Full grown larva magnified.

Mr. Westwood, in his *Modern Classification of Insects*, from which work the figures of the above cut are copied, informs us (vol. i, p. 374) that these insects grow up and complete their transformations in a few weeks. The eggs (*b* and *c*) are oblong oval, and are placed on the plant by one of their ends, one egg being sometimes attached at the end of another.

The worms or larvæ which hatch from these eggs (see cut, *d*, *e*, and *f*), are of a dull ash gray or olive color, often with a blackish stripe along the middle of the back. They are soft and of a flesh-like consistency, about three times as long as thick, thickest back of the middle, with the body much wrinkled transversely. The head is black and shining, and the neck, which is thicker than the head, has two shining black spots above. Three pairs of legs are placed anteriorly upon the breast, and are of the same shining black color with the head. As will be seen when it is crawling, the worm clings also with the tip end of its body, and all along the under side may then be seen two rows of small tubercles slightly projecting from the sur-

face, which also serve as prolegs; and above these, on each side is a row of elevated shining dots like warts, above which the breathing pores appear like a row of minute black dots. It moves very slowly, and when menaced with danger, a black fluid comes from its mouth. When it is done feeding, I suppose that, like other species of *Crioceris*, it crawls into the earth, where it lies dormant during its pupa state, which in summer probably lasts ten or twelve days, when it changes into a beetle, and comes out to feed again upon the asparagus and deposit its eggs. Those larvæ which descend into the earth at the close of the season, probably remain there in their pupa state through the winter, and give out the first beetles which make their appearance the following year.

We come next to consider how we are to combat this enemy that has now invaded us, and protect our asparagus from ruin.

In Europe they have had long and ample experience on this subject. Every remedy that can be thought of, every protective expedient which human ingenuity can devise, has probably at one time or another been there resorted to, and its efficacy fully tested. And as the result of the efforts and observations of the gardeners of the different countries of Europe from time immemorial, we are told there is one remedial measure which is effectual, and one only. It is given to us in a single line of Kollar's Treatise, as in other publications, that "the only means of destroying these insects is picking off and killing the beetles and their larvæ by hand."

Those who see these insects over-running their asparagus as they do, perhaps in thousands, will be inclined to regard it as a hopeless undertaking, an endless task, to pick off and destroy every individual of the vast multitude. Reader, let me assure you,—as I can from my own experience in this remedy of hand-picking—you will find the labor far lighter and less irksome than you suppose. When this work is resolutely entered upon, you will find that you soon acquire a love of it. It ceases to be a labor, it becomes a pastime; so much so that when the last one of these vermin is destroyed, it will be with a feeling akin to regret, that, on looking over the plants, you find there is no more of this work for you to do.

And must we now have this insect to combat, this task to repeat, year after year, we and our children after us, through all coming time? The inquiry is certainly a most important one. The asparagus was brought to this country no doubt, about the time that the first European settlers emigrated hither. For upwards of two centuries, therefore, it has been growing upon this continent wholly unmolested by insects. How has this, its worst enemy, happened to follow it here now, at this late day? Probably some enterprising nurseryman or gardener in receiving from his European correspondent a choice variety of this plant, in the pot of earth in which the roots were transmitted, has unfortunately had some of the pupæ of these insects lurking, from which both male and female beetles have hatched. Certain it is, that some such contingency has occurred to bring this insect here as had not occurred for two hundred years before, and might not occur again for a hundred years to come. Having now obtained a foothold, it will undoubtedly multiply and extend itself everywhere over our country. Indeed there is the strongest probability that, like so many other insects when newly imported, this also will become vastly more numerous and destructive in this country than it has ever been known to be in its native haunts; and that the asparagus, hitherto so cleanly and inviting, we shall henceforth know only as being worm-eaten, filthy, and repulsive.

But is it not possible to exterminate this insect, and not allow it to extend itself and become permanently established in our land? I think it is. I suppose this insect is at present limited to a comparatively small district in the vicinity of the city of New-York. As it grows to maturity in a few weeks, and can subsist upon no other vegetation but the asparagus, it is evident that by keeping this plant cut down to the surface of the earth for a couple of months in summer, all the insects must perish for want of food. If no asparagus was growing except in the gar-

dens, it would be an easy matter to keep it thus cut down. But this plant is so fully naturalized that in many places in the neighborhood of New-York I suppose it occurs wild in the field and upon the rocky shores of the sea. Every occupant of the land, however, or the children in his family, will probably know every place in his grounds where this plant, so peculiar in its structure, is growing. Now if these wild plants be cut in the manner stated, say in the first week in June next year, and if with the new shoots which will start up, this operation be repeated every fortnight during two or three months, none of these insects will remain there. And by simultaneously treating the asparagus in the gardens either in the same manner, or destroying the beetles, their eggs and larva, by repeated hand-pickings upon all the plants which are allowed to grow, I am confident this insect can be utterly exterminated. I earnestly commend this subject to the consideration of the Horticultural and Agricultural Societies of New-York and its vicinity. Let those Societies co-operate with each other, ascertain how far this insect has now extended itself, appoint a committee in every town where it is present, and select an efficient man in each school district to see that the occupant of every plot of ground on which asparagus grows, is next summer on the alert to combat and subdue this insect, and they can assuredly rid our country of this impending calamity.

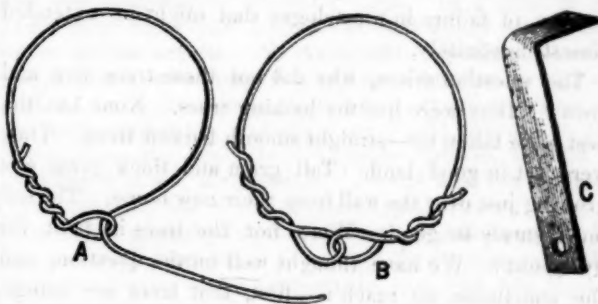
East Greenwich, July 18, 1862.

ASA FITCH.

[For the Country Gentleman and Cultivator.]

Wiring Fence Stakes---Preventing Heaving by Frost.

Quercus, on p. 369, last vol., wishes some explanation of my manner of wiring fence stakes. The following figures will illustrate.



A. Loop partly made on the end of coil, being drawn to its place before cutting off. B. finished loop. C. tool used in making loop—six inches long, one-half inch wide and three-sixteenths of an inch thick, with a hole in each end suited to the size of the wire, and one end turned at right angles at its broadest side. A pair of pincers is necessary to hold the loop while coiling the end back.

While on the subject of fences, I would state some experiments I have made in making board fence. Clay soils are very apt to raise the posts out in the spring when the ground is frozen hard the preceding winter. I have adopted the following plan, which in a measure obviates that difficulty. I set my posts two feet or more in the ground, then plow on both sides three furrows or more, which will raise the earth six inches on the line of the posts. Trim up the furrows around the posts, and clean out the ditches made by plowing. These ditches, if there is descent enough in land, will carry off the water and prevent it settling around the posts, and remove the cause of the frost heaving them. I use four boards seven inches wide, one inch thick, and sixteen feet long, for a length. I put them on with twelve-penny nails for cedar posts, after being well annealed. I so space it, that when done it is just four feet from under edge of bottom board to the top edge of the top board, and any animal that you can't control by such a fence, had better be sent to the shambles.

I have taken old fence badly hove out with the frost, and served it as above described, and made it quite substantial—which otherwise would have to have been built over. HIRAM WALKER. Mexico, N. Y.

SHADE TREES.

As far back as our memory runs, there has been more or less effort at improving country places by the culture of pleasant shades around dwellings and by the way-side. Many dwellings have been beautifully embowered with pleasant groves, and many graceful avenues now open their vista of trees planted by the hand of man. Tall, wide spreading, graceful old trees, now the admiration and comfort of all who find a place beneath their shadow, the pride of the neighborhood they adorn, have many of these once sapling denizens of the forest now become.

Within the last half century there have been enough trees set in our New-England, to have shaded every dwelling, and transformed each of our numerous highways into a beautiful avenue. In one instance, several years since, we recollect a few individuals caused trees to be planted by the way-side, over a distance of nearly three miles. Now there is not a half dozen of these trees remaining. Most of them perished the first season, and their failure killed the ardor that set them out or their places would have been supplied. In another instance of more recent occurrence, the members of an enterprising firm bought a large tract of land, with a long line of highway through it. With a zeal worthy of the noble cause, before a year had passed after the purchase was made, two rows of maples were planted by the way-side through their territory. Now scarcely one remains to reward them for the labor so honorably performed. Here are two instances of failure in a catalogue that might be extended almost indefinitely.

The question arises, why did not these trees live and grow? They were healthy looking trees. None but the best were taken up—straight smooth barked trees. They were set in good land. Tall grain and thick grass was growing just over the wall from their new home. The soil must, surely be good. Were not the trees in fault for dying out? We have thought well on the question, and the conclusion we reach is—first, that trees are beings. They exist, grow, reach maturity—decay commences, proceeds in its work, and eventually they die. Second—they are organized beings, having not only all the organs necessary to continue life until they reach maturity, but to promote growth, protect them from disease and all the casualties to which they may be liable. They have roots to secure their position, and these roots have fibres to draw sustenance from the earth. Nature gives them in the very form and quantities they need. The top or trunk, in the forest, shoots forth in a tall mast-like form, having but few branches until it rises above the surrounding trees. Around the margin of woods, and in open lands, trees take stronger roots, and are more thickly beset with branches. These new fixtures become necessary—the roots to give a firm protection from the influence of winds—the branches to shield from storms and the burning rays of summer's sun. So nature has not only endowed them with organs of life and growth, but has given them power by which, under ordinary circumstances, they can increase the number and power of some of those organs for self-preservation.

Now the conclusion of the matter touching these failures, as we understand it, lies in the fact that most, probably nearly all the trees, that have been transplanted and lost, were taken from the forest, where their organs had been adapted to forest circumstances. As they grew in the old wood lot, they grew up tall and withy. Set out

one of them as it grew, and for very limberness the wind would blow and twist the top in every direction, sometimes so far it would almost brush the ground. This top must be cut off to prevent this sacrilege of winds, and here, instead of your tree, you take a mutilation, a mere stump, to begin with. Then, these trees have grown in the woods, well shaded from wind, storm and sunshine. Their fibre is open, they are more porous, and the bark thinner and more tender than is the case with trees which have been exposed to the changes of time and season. This change from the forest to the open field tree, all comes to them at once—only they suffer the additional disadvantages of being no longer trees but stumps, with perhaps here and there a small branch shooting from their sides.

It is very reasonable to suppose that the effect of this change of locality, from shady woodlands to a position where hot, scorching sunbeams fall upon them, has a very killing influence. The bark, open and very porous, is scorched, contracts and dies. By the drying up of the bark the wood suffers and contracts, the avenues of life which nature prepared for the tree in its first home, contracts so that the life fluid is checked in its channels, and this also tends to decay.

The roots are an important part of the tree, yet how carelessly they are handled in removal! How small a proportion of the whole is usually taken up in the removal of trees, and the very portion is left in the ground, (to wit, the fibres or feeders, always most numerous at the extreme parts of the roots,) most necessary to the prosperity of the tree; very many losses have no doubt arisen from neglect in this matter. Once, in years gone by, we stood with a friend admiring some beautiful elms, when he remarked that he sent an Irish laborer to take some trees to set in his yard, and that the laborer returned with those trees, small and miserably scrawny looking things as he ever saw. He asked him why he brought such looking things to set in his yard. Oh, said the laborer, they have good roots, and if a tree has good roots, the top will make itself. These trees then showed and now show, that with good roots, the top and trunk too will find ample provision for their success.

Another cause of failure in tree planting has probably arisen from the want of adaptation of the soil to the tree set in it. Each species and variety of the tree has its favorite soil, as every one conversant with the domains of Sylva must have observed. The maple has been the universal favorite; so the maple has been transplanted everywhere and under all circumstances, when in very many cases, if some other species had been introduced, success would have been more certain. The elm will succeed where the maple will fail. The sugar maple is most at home in a dry soil. The elm is more accommodating in adapting itself to other localities. It is often found on the margin of rivers and borders of swamps. The great elm of Pittsfield is in a gravelly soil.

Trees will more readily bear removing from a moist or even a wet soil, to a dry one, than from a dry to a moist one.

In conclusion, in our experience in tree planting we have found that trees taken from open lands have a preference over those taken from the forest, which cannot be overrated; but as our fields have but few if any trees for transplanting, we must resort to the woodlands for a supply, where, in making a first choice, we would select them

from as exposed a situation as possible. If no exposed place can be found, where they can acquire hardness, our next effort would be to obtain short trees, though they might be quite young.

It must have been noticed how well a seedling tree, which has sprung up by the fence will grow. Let such a one spring up, and take a tree of ten summer's growth and set it near by. If it is taken up as trees too often are, and the top or main stalk cut off, in fifteen years the seedling will be the largest and most symmetrical tree—even if the large tree lives, which is doubtful.

Small trees are preferable for general transplanting for the reason that you obtain more roots in proportion to the size of the tree, and what is better, the necessity of amputating trunk and branch will not exist. We are aware that this is contrary to general practice, and therefore we run against public opinion, which, when it exists against facts, is of no consequence. We speak from our own experience, and for the encouragement of those who have been unsuccessful in tree planting.

WM. BACON.

Richmond, July, 29, 1862.

A COLUMN FROM ALDERMAN MECHI.

In taking up our copy of Alderman MECHI'S "How to Farm Profitably," we discover sundry little paragraphs marked for quotation a long time ago, but for which we have never yet found the space. They contain a great deal of truth, if they are written by a city farmer:

— The history of prejudice [in agriculture as elsewhere] has always been the same, viz., resistance to innovation and disbelief of progress; but that is no justification of despair; on the contrary, the evidence of all time shows that we must fight manfully against the old enemy, and that we shall overcome him by degrees.

— The want of drainage on clays is ruinous.

— The quantity of meat made on a farm per acre determines the quantity of grain grown. It has often been remarked that amidst miserable land and wretched farming the laborer's cottage garden is like an oasis, but it receives, independently of deeper cultivation, 32 times the farmer's quantity of manure, for he knows that on his eighth of an acre of land he cannot expect a crop unless he keeps a pig to make manure.

— There are certain fixed expenses on land, whether we grow a large crop or a poor one; rent, tithe, taxes, manual and horse labor, and seed, become a very heavy percentage of charge on a minimum crop, whilst on a maximum one the expenses are proportionately diminished.

— On well laid out land, with few fences, good drainage, and good roads, there is actually much less cost of labor than on a poor, undrained farm, with wide and irregular hedges, green lanes, and choked up ditches; as most of my work is done by piece, I can estimate the difference with accuracy.

— Let him who enters on farming make up his mind to great vicissitudes in price, and in some degree in quantity and quality. It is the history of the past, and will be of the future. If the average is remunerative it is all we can expect.

— If you buy 5 per cent. too dear, and sell 5 per cent. too cheap, your farming profit is gone. Bear in mind that there are in every market men who are keen and thorough judges of the value of every article. If you are not so, you must find some good judge to act for you, otherwise you will soon fall a victim to superior power.

IRON AS MANURE.—A farmer once told me he manured his land with iron, and explained that it was the plow which furnished his manure. This is literally true, for there is a love between the air and the soil, which ends in a fructifying attachment if you will but expose them to each other's influence.

— The advantage of deep cultivation is particularly

shown immediately over the drains, where the earth has been deeply disturbed; many people fancy that it is because it drains quicker, but the truth is that the air has more ready access to the soil.

— Management is a comprehensive term; it implies the right man in the right place, and the right thing done at the right time. In every undertaking, warlike or peaceful, it is alike essential, but particularly so in agriculture, where the fluctuations in weather render forethought and promptitude an essentiality for profit.

— Let agriculture form an honorable portion of our general education—why should it not? Let Tull and Tusser range side by side with Homer and Virgil. Agricultural education and apprenticeships for our young farmers are imperative.

— The question of what *may* be profitably produced from an acre of land, is a very important one. Professor Playfair, (a first rate authority,) has, I believe, stated that £250 can be and has been produced from one acre of market garden in one year; and we all know full well that in all gardens the produce is abundant compared with field culture. Why it is so needs no reply. "At blithsome morn and dewy eve," the crowds of men, women, and children issuing from market gardens are living solutions of the problem, and stand in charming relief to the solitary farm laborer, alone in a twenty-acre field, or scattered here and there over an extensive district, like plums in a school pudding.

— Starvation to either man, beast or plants, will reduce them to mere skeletons; abundance of suitable food, with cleanliness and warmth, will make them comparative giants. The concentration of manure and its consequences, are plainly exemplified at our flower shows, where enormous masses of flowers and foliage are produced by one solid foot of prepared earth. In a state of nature forty times the quantity of soil would fail to produce similar results. No doubt the frequent application of moisture, when requisite, assists in producing this effect; but a knowledge of this fact should stimulate us to study irrigation, and apply our liquid manure to the roots when the plant is in vigorous growth, instead of wasting it in our horse-ponds. I know and can appreciate practically the effects of such applications.

— The necessity for diminishing the fixed expense by an increased produce, is illustrated by the statement of a first-rate north-country farmer, who says that if he spends £1 per acre, or £600 per year, for artificial manures, he makes a profit—if he omits it he makes a loss. If stock is too dear, or you are short of capital, plow in green and root crops—particularly on heavy land.

— Essential Preliminaries to Profitable Farming:—

A thorough knowledge of your business, practical and theoretical.

Ability to buy in the cheapest and sell in the dearest market.

— To select the most able workmen of industrious and honest habits.

— To apportion rightly your land and capital.

— To maintain in economical efficiency the motive power, whether horse or steam.

Deep, frequent and clean cultivation.

Drainage of land not naturally filtrative.

Shelter for stock.

Efficient machinery and farm implements.

Ample (and judicious) use of purchased food and manures.

Rigidly correct farm accounts, posted daily from the cash book and journal.

Estimates of the cost and return of each crop in detail.

— Before I hired a farm I would take with me a laborer, and dig a hole in every field, to the depth of two or 3 feet, that I might know the character of the subsoil, for herein lies the prospect of your success or failure. The agricultural pie-crust, or plowed soil, to the depth of 5 inches, always looks pleasant enough and dark, but inside the pie you will too often find a most miserable contrast, inconceivably at variance with the deceptive surface which has been so long cultivated and aerated. There is nothing more instructive than the contents of a 5-feet drain cut through a field. Mere contents, when exposed to daylight, appeal forcibly to agricultural common sense with reproachful truth. It is in that 5 feet of subterraneity that you must look for your agricultural profit or loss; and yet I have seen many farms hired without a spadeful of earth being moved or examined; and I have seen many farmers, in a very brief period, leave farms so hired, minus their capital.

LAMBERT WHEAT.

EDITORS CO. GENT.—I send you a sample of weevil-proof or Lambert wheat, grown by myself. I have grown two crops of it. The wheat is from three to five days earlier than the Mediterranean, smooth head, small blade and straw. The straw is softer than smooth-headed wheat generally. Its earliness renders it less liable to be affected by the midge. The hull of this wheat is double, so that the midge fly does not pierce it, in depositing its eggs. Thousands of heads have been examined by different persons, and I have never heard of a weevil being found in it.

Last year I had ten bushels of this wheat sowed side by side with the Mediterranean, in the same field. The Mediterranean was very much injured by the weevil, while the Lambert was entirely free from the little pest. One bushel to the acre of this wheat will yield 20—some say 25 bushels. P. C. W. Columbus, Ohio, July 13th.

The heads sent are beardless and considerably resemble in external appearance the whiter heads of the Soules wheat. The grains are rather larger and darker colored than the Mediterranean as grown here—the interior is more compact and will probably make as white flour. As in the Mediterranean and other varieties there is an inner and outer chaff, but they are slightly thicker in the Lambert, and separate more readily. A very favorable notice of this variety was published in the COUNTRY GENTLEMAN, vol. xvi. p. 218, from an anonymous correspondent, from which it appears that it has been in cultivation over ten years, and if valuable will make its way and become extensively introduced.

To Make a Cheap Water Trough.

Saw off a hollow log, say ten or twelve feet long, and nail boards firmly over each end. The ends of the log should be sawed true, so that the boards will fit water tight. On the upper side of the log, cut holes with a narrow axe, so that cattle can thrust in their noses and drink. These holes may be about three feet apart. Scrape out the rotten wood from near the ends, on the inside, and apply a good daubing of pitch or rosin (resin) mingled with an equal amount of linseed oil. In case the trough is very much decayed, procure a quantity of brick clay, and work it until it is about of the consistence of putty, and fill each end with clay.

I have made cheap troughs in this way, that would last several years.

Pure Water for Stock.

A good draught of good water, is, probably, as refreshing to beasts as it is to people. But, in the month of August, nearly all domestic animals suffer far more than we imagine, for want of good water. Sheep will thrive far better if they can have access to pure water. Teams will endure the heat far better if they can have a plenty of clean pure water; and if milch cows must drink stagnant water wherever they can find it, how is it possible for them to give their usual flow of good milk. It is impracticable for them to do it.

Some people allow water to stand in troughs, day after day, many times, and compel their animals to drink it all up. Did such people ever drink water from an old dirty slop pail, after it had been allowed to stand in the sunshine for two or three days? Let them try the experiment of drinking such water, and wait for the result; and then they will be prepared to express a correct opinion, whether or not such water is as good for stock, in the sultry days of August, as pure cold water would be.

Water troughs and water tanks should be cleaned frequently, during the hot days of August, and fresh water pumped into them several times during the day.

Milk cows require a vast quantity of pure water in hot weather, in order to produce their usual flow of good milk.

DAIRYING IN BROOME COUNTY.

Mr. C. H. TREADWELL, a farmer at Pleasant Hill, four miles southeast of Binghamton, some time ago contributed to the Franklin Visitor an account of his dairy operations for the season of 1861. His farm contains ninety acres, (70 cleared,) and is rather a new farm—the first clearing being made on it about twenty-one years ago. His dairy consisted of eleven cows, including a two-year old heifer. Mr. T. says:—

We have sold 2,218 lbs. butter at 19 cents per lb.,	\$421.42
We have used and retained for use 300 lbs., which, at 19 cents per lb., would add \$57 to the above,	57.00
Dairy to be credited for pork,	62.35
Deacon Skins,	4.00
Calves,	12.50

Total credit to dairy, \$557.27

We pack our butter in jars, and either sell the jars with the butter, or have them returned.

My income from the farm was as follows:

Cattle sold,	\$156.00
Potatoes raised,	21.00
Buckwheat raised,	16.40
Corn, beside fattening pork,	9.00
Hay raised,	208.00
Pork, beside that credited to the dairy,	19.25

Total credit to the farm, \$429.65

Total receipts from dairy and farm, \$986.92

Sold for cash to the amount of \$643.77. The dairy foots up the best this year it ever has. Last year we made 2,432 pounds from twelve cows. Last year I raised more grain, the total produce amounting to \$1,013.27. But the blessings that crown our industry every year, are such as to furnish us a happy thanksgiving day, as often as the sun rises.

[For the Country Gentleman and Cultivator.]

REMEDIES FOR CRIB-BITING.

EDITORS OF COUNTRY GENTLEMAN—In a former number of your paper, there was an inquiry for the cure for a crib-biting horse, and I have looked for answers, and as yet have seen but one, and that was to buckle a strap around the neck. I owned a crib-biter once, and was told to try the strap, and the effect was to cut the mane out, but the horse would crib when the strap was off and almost as often when on—keeping in a stall without rack or manger, and taking the food to the horses in boxes at feeding time, or soaping the parts thickly with soft soap on the spots he uses for cribbing, and in fact all parts reached by his teeth.

A horseman told me that the front teeth of a horse that cribbed, lapped over each other or pressed together so as to create pain, and if they were filed apart it would cure him of cribbing. I never tried it, so cannot vouch for its efficacy, but I give it to you for what it is worth.

I send you four heads of timothy I pulled one day from a bunch of about twenty, apparently from one seed, and all were about the same length. They are not samples of what I raise, but should like to. JAMES THOMPSON.
Rose Hill, July 21, 1862.

The timothy heads enclosed were of large size, and seven inches in length.

Rice Pudding.

1 quart of milk; 1 tea-cup of rice. Boil the rice and milk together until done; then put in the yolks of three eggs and enough sugar to sweeten it. After it is taken from the oven, make a frosting of the whites of the eggs—spread it over the pudding, and place it in the oven long enough to become a light brown. I think the rice pudding is better cold than warm. K.

Sponge Cake.

10 eggs; 1 pound of flour; 8 ounces of sugar; 1 lemon. The flour must be well heated. Bake in a hot oven. K.

[For the Country Gentleman and Cultivator.]

GRAPE CULTURE IN KANSAS.

KANSAS, JULY 30, 1862.

From time to time, dear COUNTRY GENTLEMAN, I see some querist enamored with the life of a farmer, seeking knowledge through your columns.

It is as true now as when Horace wrote his Satires, "that no one lives content with his condition, whether Reason gave it him, or Chance threw it in his way."

Inasmuch as the querist will not heed Horace, he must be answered, and possibly, in the multiplicity of replies, he may find something worthy his perusal. Therefore, I cast in my mite.

I cannot boast of much experience in either the culture of grapes or the rearing of sheep; hence my remarks must be based on observation mainly.

Firstly, I would advise a new beginner to devote his energies to the culture of grapes or the rearing of sheep. Secondly, I would recommend Kansas, all things considered, as one of the best, if not the best field for the novice, who is limited in means.

Now for the reasons for the faith which is in me. As to grapes, I assert that there is no grain, no vegetable, no tree, no bush, and no vine so easily managed and so certain of returning a fair recompense for the labor expended upon it; and few fruits of any kind are so cheaply brought into bearing. A person who has never tried farming will find the sowing of grain, the planting of corn and vegetables, with the after plowings and hoeings innumerable, are far more pleasant in theory than agreeable in practice; nor is skill therein so easily acquired. He may commence with the resolve that no weeds shall obstruct the rapid growth of his crops, but unless far wiser than most men, or possessed of ample means, mid-summer will find his fields choked with weeds, and himself half-crazed. Possibly, he may begin to doubt whether a farmer's life is so very interesting and delightful.

I doubt whether a man of small capital, say less than \$2,500, can hope to earn a comfortable living, as a tiller of the earth, without great trouble, unless a thorough practical farmer, or aided by high prices for produce, raised on new and rich land.

I think the fruit grower, starting equally ignorant of the practical details, may more readily gain a mastery of his business, and if near any good sized town is certain of making a better living and with less hard work. The first year he will have to raise vegetables and other farm produce to assist in defraying expenses; but the second year his small fruits will yield some revenue, and together with his dwarfs, will pay well the third year.

If one reads of trenching three and four feet in depth, of fertilizers, phosphates, superphosphates, &c., &c.; of the Thomary system, of the bow system, of Bright's renewal system, of borders and trellises, of the Delaware—"the only grape to plant"—and consulting a wholesale catalogue finds it advertised at \$75 per hundred, for No. 1 single eyes, what wonder that his eyes open, and he shuns grape culture as the leech that will soon steal away his little capital. But if some one should say to him, "my dear sir, don't be frightened; this is principally paint, put on to terrify green-horns, and catch suckers; wait a minute and I will rub off a little for you;" possibly he might listen. Then would I say unto him—never mind the books and the horticultural society reports for the present; but have that hill-side pasture plowed up, then cross plow with the largest and deepest running plow you have, then subsoil it. Having done this in the fall, and purchased your Catawba one year roots, and Isabella ditto—1815 to the acre and for \$15 per 1000—heel them in for the winter in some dry and shaded place. If you intend to sell the grapes only or principally, buy mostly of Isabella; but if you wish to sell the grape juice or make wine, then have five-sixths of Catawba. Do not begin with more than two acres. As soon as frost is out in the spring, have deep furrows plowed six feet apart, and set

your vines four feet apart in the furrows; being careful to spread out the roots well. For fuller directions see Dr. Grant's Illustrated Catalogue, price three cents. Now read your works on grape culture, and don't be afraid of cutting off the laterals too much. When your vines have made a growth of three feet, go into the woods and cut some sticks, and place one to each vine, and fasten the growing cane to it—you can do so easily with green wheat straw, or better with willow twigs. The third year your vineyard will bear and should yield you thereafter an income of at least \$250 per acre. Of course the second year you layer your vines and so increase the size of your vineyard to five acres, which is all one man can tend well. Having brought your Catawbas into bearing, buy some of the more costly sorts, as you can now afford to do, and try them. Then tell me if there is not more pleasure, less hard labor and more profit in grape culture than in any other tillage known to man.

For the grape, Kansas, or a portion of it, is peculiarly fitted. Our soil is light and rich, and our climate dry—we do not need to drain or manure our land. Along the bluffs of the Missouri, in the counties of Doniphan, Atchison, Leavenworth and Wyandotte, and along the bluffs of the Kaw, in the counties of Johnston, Douglass, Shawnee, Waubensee, &c., are thousands of acres of cheap land, unequalled, I believe, in the world, for the culture of the grape—my own preference is for the bluffs of Missouri, where I have an incipient vineyard. There are several vineyards started in Doniphan and Leavenworth counties, and have surpassed the expectations of their owners, in the rapidity of their growth, the excellence and productiveness of their fruit, and their freedom from disease. One of the owners, an old French *vigneron*, tells me he never saw vines do so well in France; he is an intelligent and educated man.

Good land may be purchased in these counties, at prices ranging from \$2 to \$20 per acre, according to its nearness to some embryo city; and cultivated land from \$5 to \$25 per acre, according to improvements or nearness to the cities aforesaid.

St. Joseph and Leavenworth city furnish a ready market for all grapes, and St. Louis for all wine or grape juice that this section of country can yield for several years to come.

Of sheep I know less. Sheep can be purchased in Missouri for one dollar per head, and can be kept on our prairie grasses from May to December; and the prairie hay cut in July will keep them, with moderate shelter, during winter. The range and grass cost nothing. The shelter will cost less here than in New York or New England; and the land may be taken under the homestead bill in nine-tenths of the counties in Kansas. In southern Kansas they pasture their sheep near home in spring, summer and fall, and drive them into the border of the Indian country in winter; they have little or no snow during the winter. Even here, in latitude 39 deg. 40 min., we have not had over two inches of snow each winter, four out of six winters.

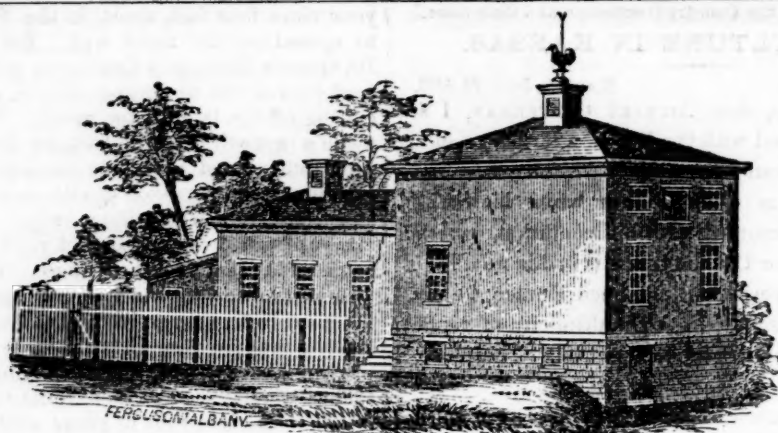
The wool may be sold in St. Joseph or Leavenworth city, or shipped, at a cost of two cents per pound, to New York city.

We Kansans regard our State as possessing great advantages for the fruit grower and stock raiser, but we know no other state can surpass us for wine-growing, and few equal us for the rearing of sheep. KANSAS.

THE APHIS IN CAYUGA COUNTY.—You inquire of your subscribers for information respecting the Aphis. Last year, on or about the 1st of August, it made its appearance on late wheat and oats, in moderate numbers, sufficient however to injure wheat badly. It has now been upon our fields two weeks in immoderate numbers, say a thousand upon single heads, more or less—most numerous upon wheat, even where growing side by side with oats. Last year the reverse was true. I shall be happy to inform you if they do not destroy my crop entirely.

Ira, Cayuga Co., July 30.

S. B. LOOMIS.



THE POULTRY HOUSE OF W. H. HERRICK, Esq. OSWEGO.

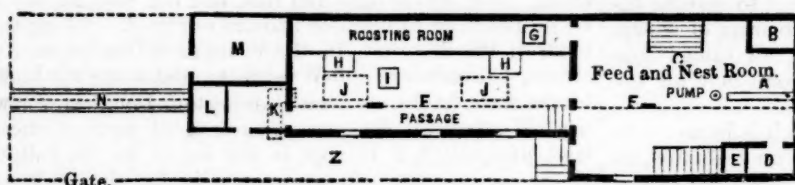


Fig. 2.—Ground Floor.

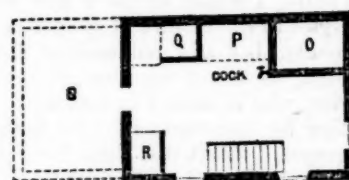


Fig. 3.—Basement.

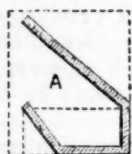


Fig. 4.—Section at A.

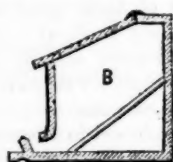


Fig. 5.—Section at B.

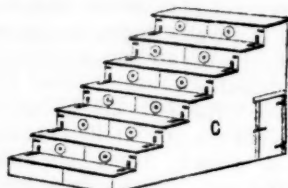


Fig. 6.—Section at C.

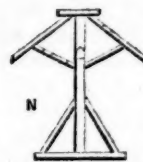


Fig. 7.—Section at N.

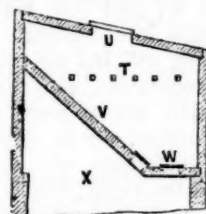


Fig. 8. Sec. of Roosting Room.

DESCRIPTION AND REFERENCES TO ILLUSTRATIONS.

- A. A.—Water trough and section.
 B. B.—Feed-box and section. Holds 50 bushels.
 C. C.—Nests and section. Nest on each side of the hole, being two for each entrance, which allows the hen to be out of sight while on the nest. The cover lifts up, for the purpose of taking out eggs, &c. The nests are so constructed as to be taken apart, by loosening the hooks, each one being the same as a drawer in a bureau. They can be taken apart, cleaned, oiled, and put up again in ten minutes or less. There are 24 nests in this set. Under the nests is a *prison*, where hens wanting to set are put for three days *without food or water*, which effects a perfect remedy. I claim this to be the *best plan for nests extant*.
 D.—Tool closet.
 E.—Ventilator from basement, and also used to send down hay from loft.
 F. F.—Slat partitions.
 G.—Trap door and spout leading to compost vault.

- H. H.—Openings to roosting room.
 I.—Ventilator.
 J. J.—Openings in inclined floor under sky lights, to admit the light to lower floor, which warms in winter and keeps sand dry.
 K.—Passage way from house to yard.
 L.—Pile of burnt oyster shells, bones, &c.
 M.—Pig pen.
 N. N.—Covered shelter in yard, for fowls to use in either wet or sunny weather.
 O.—Stone cistern in basement.
 P.—Feed.
 Q. R.—Cow Stalls.
 S.—Manure and compost vault.
 T.—Roosts.
 U.—Sky light, ventilator, &c.
 V.—Inclined floor for droppings.
 W.—Trap and spout to the vault.
 X.—Sand bottom.
 Z.—Yard—all sand and ashes.

Poultry Keeping on a Large Scale.

W. H. HERRICK, Esq., of Oswego, has kindly complied with our request to furnish plans and details of his poultry house, which are given above, together with the following letter on his system of management:

EDS. CO. GENT.—I keep from 100 to 200 fowls, mostly of the Black Spanish breed, and keep them confined the year round, but disease is not known among them, and I can assure you that they do full as well as those kept by others who believe that a fowl cannot do well unless they are *kept scratching*. My yard is only 25 by 60 feet, filled 12 inches deep with leached ashes and fine sand. I have a large box containing some 30 bushels of burnt oyster shells and bones, which the fowls have free access to, and when the top becomes too dirty, I take it off

and put it around my grapevines. My gardener raises 600 head of cabbage, annually, which is fed them through the winter, and in summer he gives them lettuce, all they want. I have a contract for ten beef heads weekly, and give them plenty of sour milk, in addition to all of which they have *free access* to a mixture of corn, oats, wheat and barley, which is kept in a bin holding some 40 bushels, so constructed as to *regulate itself*, and not allow the fowls to waste a grain, or scratch in it. My watering trough is also so constructed as only to admit the heads of the fowls, and is always full of *pure clean water*, which is of more importance than anything else in keeping poultry healthy.

A barrel of lime, a bucket and a brush, are indispensable articles in a poultry house, and should be used every *rainy day* (and oftener during such a drought as we have

had lately.)—whitewashing everything but the floor, and using the lime dust on that. But wash the floor first. I have tried all your *vermin preventives*, and everybody else's, but never succeeded in keeping my fowls free until I found a remedy by experimenting:

The nests are so constructed as to be all taken apart in two minutes; they are perfectly smooth inside and out, and about once in every two months I have them taken down, cleanly washed, and then thoroughly coated with common whale oil, and I have never yet seen a single louse near them, nor can one be found around my premises. The oil we apply with a common brush, and it can be relied upon as being a *sure preventive against vermin on fowls*.

W. H. H.

BALLOON FRAMES FOR LARGE BARN.

I want to build a barn next year three stories high, and length and size of barn in Rural Register 1862, page 138, fig. 16. I wish to build on the balloon frame principle as a saw mill and my timber are within 300 or 400 yards of the place of building, and the cost of erection would be much less than by common frame. But can such a barn be built on the balloon principle? If so, should the studs be sawed the full 24 feet long? I want the building of that height. How many should be put in the sides? How should the thrashing floor be put in?

On page 194, fig. 24, same Register, GEO. E. WOODWARD frames the gallows frame with mortice tenon and brace. Would it not be better to dispense with these by starting one long brace in the centre of the end, letting it into the studs, and running to the top of the building? Two such braces could be put in.

Would collar braces be sufficient to support the roof? If insufficient, will the storage or convenience of the barn be affected by the joists. Will not Mr. Woodward give us some explicit directions how a large barn, like the one in question, on the balloon principle should be built, giving suggestions as to size of sills, joists, studs, etc.?

What changes would you recommend in barn, page 138, when it is to be used exclusively for a dairy barn, carriage sheds and horse stable being already erected, and my farm not at all adapted to grain raising? I wish to go into the dairy business extensively, having a farm of 240 acres suited to it, and I wish to erect a barn as large as the one in the Register, for the exclusive purpose of the dairy. The question with me is how to build it so that it shall be perfect and convenient in every respect—a building such as L. F. ALLEN says of his barn—one in which one man can do the work of two elsewhere.

Having no experience in dairy buildings, I rely on older heads and their works. I ask directions from Mr. Woodward because not a single carpenter in my acquaintance here has any practical knowledge of balloon frames, and information from you because I have never seen a dairy barn. Please let us hear through the COUNTRY GENTLEMAN, the information I desire.

I would also state that I raise a great many roots. Where, in this barn, should they be stored? I use sawdust exclusively for litter, but expect hereafter to combine muck with it. Where should these be placed before using to be most convenient? I wish to save and accumulate all my manure, and use this muck for that purpose.

Harrison Co., O.

R. S. LACEY.

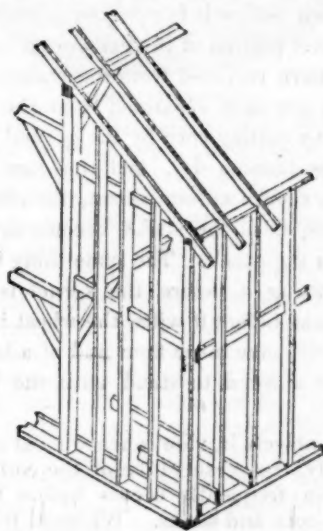
It is a great advantage on every farm if a portion of grain can be raised, the straw being valuable for litter and manure making, and the grain for meal to mix with roots. In that case no alteration need be made in the plan in the Register. But if grain is not admissible, little change would be necessary except in omitting the granaries or a part of them, and occupying a part of the upper floor for storing hay. The horse stalls may be changed to cattle stalls, and more space may be given at M. for storing muck to keep it dry, and for roots, the latter discharged

through a trap door in the passage above, and covered with straw. In answer to the other questions, we have been kindly favored with the following reply by GEO. E. WOODWARD of New-York, who thoroughly understands everything connected with balloon frames, and who contributed the excellent article on this subject in the Register for 1862:

Balloon Framing for Large Barns.

In reply to Mr. LACEY's questions relating to the erection of a large barn with a balloon frame, I would state that I know of no better manner than that of constructing it over a gallows frame. In all barns requiring a thrashing floor, and for the storage of hay above, the gallows frame, with its wide openings and movable floors, fulfils a more useful purpose than any other contrivance I can at this moment suggest. The necessity for ventilation, and the room needed for moving and pitching hay, makes permanent floors and close partitions undesirable. Thus it appears that a gallows frame has an important duty to perform aside from the strength and permanence it gives to the outer structure.

Balloon framing depends in a great measure for its strength on its being thoroughly tied, that is, every piece should have other pieces meeting it at each end, and except in very small $1\frac{1}{2}$ story buildings the thrust of the roof should not come upon unsupported studding.



Manner of Framing Large Barns.

No one hesitates to put a great weight upon a properly laid floor. Now suppose we turn that floor on end, so that it stands perpendicularly in the direction of the floor joists, thus making it the side of the building instead of the floor, then let it be tied at the bottom by other floor joists meeting and lapping, and at the top by the rafters coming down from the galloway frame. We thus have a side of a building that will sustain an immense thrust; but such strength is not necessary; the thrust of hay, if any, is small compared with its weight. We have lately visited a large barn near Madison, N. J., some 60 or 70 feet square, of which two sides were the gravel or concrete walls, and to all appearance there was not the slightest failure in any part of it.

The sizes of studding used in the construction of the balloon frame of large barns would vary according to the distance between the sill and plate, in the same manner that floor joists are selected for a greater or less span. We think 2 by 6 should be the least, and 3 by 8 the heaviest that is needed, and that 2 feet between centres would be just right. We should put one row of bridging

through the centre of the studding in about the same manner as is usually put between floor joists.

The sills of such a barn as Mr. Lacey proposes to erect had better be of the old fashioned size, as the gallow frame is morticed and braced into it, but they may be as small as 3 by 8; the rafters and floor joist are in all cases of the same size in the balloon frame as in the mortice and tenon frame. It is not necessary to use studding full length; it can always be spliced by butting the ends together and nailing an inch strip each side, taking care to break joints in putting up the studding.

There are railroad depots at the west 45 by 150 feet, built with balloon frames without a gallow frame, but the 2d floor is at the top of the studding, and the girder in the centre is supported by posts.

I refer your readers to the ANNUAL REGISTER OF RURAL AFFAIRS for 1862 for a thoroughly detailed manner of constructing balloon frames for buildings of every class, as this is the only illustrated and complete essay on this subject ever published. The manner of erecting large barns as there described, is the best safe plan we know of.

GEO. E. WOODWARD,

Architect and Landscape Engineer, 37 Park Row, New-York.

[For the Country Gentleman and Cultivator.]

Topping Corn or Cutting it by the Ground.

CORN STALKS AS FODDER.

By topping corn before it is ripe you prevent the corn from receiving that portion of the elaborated nutritive sap which it would have received from the stalks and leaves cut off, had they not been separated from the corn. On the other hand, by cutting corn by the ground before the leaves and stalks become dry, and the corn fully ripe, and setting it in shocks as soon as cut, the circulation of the sap continues, until the stalks become dry, and the corn improves in the shock. The same thing is observed in wheat, by cutting it before the kernel is hard, and placing it in shocks before it wilts, the wheat improves in the shock and will make more flour and of a better quality than if it was allowed to stand until the kernel was hard.

We have two objects in view when we cut corn by the ground. Namely, the preservation of the corn and stalks from frost, which frequently occurs before the corn is ripe, and spoils corn and stalks. Whereas, if corn is cut by the ground before the frost strikes it, both may be saved and be of a good quality.

The corn grown in this section of country is not so large in stalk or ear as that grown further south; the stalks being smaller, make better fodder, and are excellent for milch cows, producing an increase of milk of the richest quality for butter-making, and the corn weighs more by the bushel than the southern corn.

I have no doubt but that corn cut by the ground before it is fully ripe, may not be quite as heavy, but if it is well cured in the shock it will be equal in quality, and the small loss sustained in the weight will be trifling when compared with the loss of the corn, and the stalks for fodder when the frost strikes it before it is ripe. Surely if there should be no frost until the corn was fully ripe, the corn would be good, but the stalks would be dry and of little value. Finally, to sum up the whole matter, there is a certain state or condition at which corn may be cut by the ground, and the diminution in the weight of the corn will bear no comparison to the loss of the fodder, if the corn was struck with frost or allowed to stand until it was fully ripe, and the stalks, if well saved, will amply pay all the cost of cultivation.

I once planted two acres of corn, a part of it on the 8th, and part on the 10th of June. It being so late in planting, I expected it would be destroyed by frost.

About the middle of September there was a slight frost, but not so severe as to materially damage the corn, and fearing there would be a more severe frost I immediately cut the corn by the ground and shocked it. The corn at this time was what we term glazed, and it ripened well in the shock, produced forty bushels of shelled corn to the acre, and the stalks proved to be excellent fodder, and the corn was of so good a quality that I had no difficulty in selecting the best of seed from it. At another time I had corn struck with frost before it was cut, that was equally as good before the frost came, and both corn and stalks were spoiled.

The subject of the value of cornstalks for fodder has been extensively discussed in the columns of the COUNTRY GENTLEMAN, some advocating the cutting of them for fodder, others the feeding without cutting, and some have considered them of little value in any form. Stalks cut and well saved at a proper time, are excellent for feeding cattle, and those cut after they become dry and hard, or frost bitten and badly saved, are of little value, the best way you can fix them. I do not think it will pay the cost of cutting them for feeding. MATTHEW M. HOWARD.

LYN. C. W.

[For the Country Gentleman and Cultivator.]

Experiments in Strawberry Culture.

Observing the article of S. L. FREY in the COUNTRY GENTLEMAN, page 30, on the unproductiveness of Wilson's Albany, reminds me of similar failures of high cultivation that have come under my observation, and goes to confirm the opinion that the same variety of strawberry in different climates, soils and locations, requires different treatment. And every successful cultivator, after examining the experience of others,—no where to be found more fully recorded than in the COUNTRY GENTLEMAN,—must by careful experiment, ascertain what varieties and kinds of treatment are best adapted to his situation.

In the fall of 1860, the writer of this took a trip among the large strawberry plantations in Maryland—many of them from 80 to 100 acres in extent, and from which the great bulk of early strawberries are gathered for Philadelphia,—one farmer having received for his crop \$10,000, being an average of \$100 per acre. And I am informed the same person has the present season sent 125,000 quarts at an average of six cents per quart, amounting to \$7,500, giving employment to one hundred and fifty pickers.

The three principal kinds there grown, are called Scarlet, Hart, and Stewart, and succeed better on a large scale without much care, than any of the more noted varieties, such as Hovey, Albany, and others, highly esteemed elsewhere. Wishing to try those three varieties here, a few plants of each were obtained and planted in a single row, hills about two feet apart, on rich land made deep and mellow, and manure applied plentifully without measure. During the summer of 1861 they made a vigorous growth; the runners were all cut before taking root, and during last winter all covered with manure. This summer the plants made a remarkable growth, so that a bushel measure would not cover a hill without resting on the foliage. There were an abundance of fruit-stalks and blossoms—all hermaphrodites—but an entire failure of fruit—little imperfect berries not larger than peas was the result, although a very favorable season for producing a large crop of fruit grown in beds as usual.

Other experiments have proven that with hill culture thirty inches apart, and the ground thoroughly mellowed between the hills last summer with Mape's subsoil plow, runners cut off, plenty of manure, and mulched with leaves, that some varieties, such as Triomphe de Gand and Trollop's Victoria, did remarkably fine; the Lady Finger and Diadem far surpassed anything ever obtained by cultivation in beds; the Albany, Scarlet Magistrate, Peabody and Hooker, were no better than by ordinary bed culture where each plant is allowed about six inches of space, and the

Hovey was an entire failure, about two acres of which that were well tilled in hills last year and runners cut short, were plowed under this season before fruiting time as valueless, while Hovey's, grown in beds as usual in their natural way, produced a fine crop, much better than for several years past.

Such has been the result here, causing doubts as to the propriety of adopting hill culture indiscriminately with all varieties, and having set out ten acres last spring, mostly thirty inches apart, with the intention of keeping them in hills without runners, we shall, after subsoiling the ground thoroughly between them, turn two rows together, forming beds about three feet wide, with alleys between, which plan has heretofore yielded us over 200 bushels per acre, and it may be advisable to let well enough alone.

Cinnamonson, N. J.

WILLIAM PARRY.

[For the Country Gentleman and Cultivator.]

ASHES FOR SANDY SOIL.

Of all the manures within reach of the farmer, I consider ashes the cheapest and most durable for sandy soil. For clover on sandy land, it has no equal among all the manures and fertilizers of the day. The soil in this vicinity is a loose sandy soil; in fact we have, as it were, a prairie of sandy plain, such as were found in nearly every portion of our country 15 years ago. They appear never to have been charged with vegetable matter, for even when the timber was first removed, and the land cleared and put to rye or other crops, they yield liberally only for one or two years, before they required generous manuring. It is loose, porous, and without that firmness which is requisite to keep plants in their places, even if their proper food could be found. This land, a few years ago, could have been bought for one-third what it would bring at the present time. The cause of this rise in the price of the land, is a liberal supply of muck and ashes. The muck is drawn on in winter and spread over the land; the ashes are applied in the spring, at the rate of 75 bushels to the acre; after corn is planted it is put on the hill or sown broadcast. The general rule is to plant with corn and put the ashes on the hill; sow to rye in the fall as soon as the corn is removed; seed with clover the following spring. The following season, after the rye is removed, the seed is gathered from the clover, and the straw left standing on the ground. This is done with one of Disbroe's Clover Strippers, an excellent machine for the purpose. Two bushels of seed is frequently obtained from an acre; the straw thus left standing forms an excellent substance in connection with the muck, to fill the pores or open places between the particles of sand, and supply proper food when acted upon by the salts around it. I have known portions of these plains, the surface of which, to all appearance, had not been covered with vegetation within the memory of man—where the blackberry vine grew weak and feeble, and five-finger vines grew few and far between, so completely invigorated and enriched in a few years, as to produce 30 bushels of rye, or two bushels of clover seed to the acre. Those lands thus brought to a state of fertility, are as capable of yielding a crop every year, under the application of ashes, as those lands that have never been reduced. The owners of farms of heavy loam have heretofore considered these sandy plains of little value, as compared with theirs; but I would sooner cultivate a corn crop on them than on the heavier loam land. I can work two acres of the sand as cheap as one of the heavier lands, because the plowing and hoeing can be done with less team and help, and in much less time. Ashes here can be bought for 12½ cents per bushel, and I think are worth 25 cents to be applied on sandy soil in connection with muck. This mode of operation for the treatment of sandy soil, so as to bring it on an equal footing in point of productiveness, requires no uncommon skill, but commends itself to the practice of all—for any common manager of a farm may accomplish it without the aid of any adjuncts of chemistry, or what are called

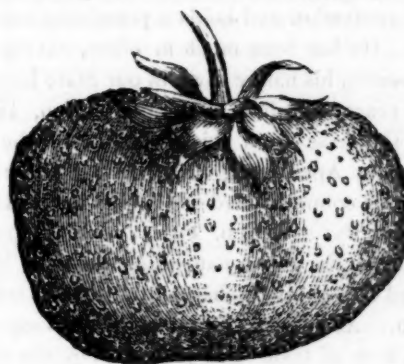
specific manures, but by using merely those great gifts of nature. S. P. KEATOR. *Ulster Co., N. Y.*

[For the Country Gentleman and Cultivator.]

The Triomphe de Gand Strawberry.

EDS. CO. GENT.—I have been requested to state publicly, as one of the results of several years successful and profitable experience in the cultivation of some of the more popular varieties of the strawberry, which particular kind I would consider best for cultivation.

The manner in which this request was preferred, would seem to indicate a covert suspicion that the decided "pronunciamento" of our "strawberry king," Mr. KNOX, in favor of the Triomphe de Gand, savored somewhat of self-interest. So far as that is concerned, I imagine it would make but little difference with him, which one of all the known varieties should suddenly assume a value; for his immense plantation would supply any or all to an



TRIOMPHE DE GAND.

indefinite extent at a moment's notice; and besides this, the simple fact of his plowing under many acres of other varieties, in full bearing, during the present season, to replace them with this, would rather convey an impression that he spoke as he thought. My experience and observation would most unhesitatingly and decidedly sustain Mr. Knox in his decision. The Triomphe de Gand certainly combines in itself all the excellencies of all the best varieties. Among the good qualities which recommend it, are its immense size, superior flavor, prolificacy, equaling, if not surpassing, Willson's Albany in this respect, the solidity of its fruit, its color and fine appearance, the length of its fruiting season, and its non-liability to injure from rain and wet weather, in all of which it eminently excels. My advice would be alike to the market gardener and the amateur—plant first, second and last the Triomphe de Gand. I am pleased with the Fillmore, and believe it will become a favorite, but as yet are unable to speak of it from experience. JNO. S. GOULD. *Duquesne, Pa.*

Pounds of Milk for a Pound of Cheese.

"O. B. P." of Potsdam, N. Y., gives the American Agriculturist the following account of his experience to determine this question, beginning May 15th and ending October 20th, 1861. All cheese made prior to September 20th, was shipped November 12th, the remainder November 26th. The night's milk was set three to five inches deep in tubs and pans. In the morning it was skimmed, the cream being made into butter, (7 lbs. to 100 lbs. of cheese) and the morning's milk added. Cheeses made in May required 11 pounds of milk for one pound cured cheese; those made in October 9½ pounds, the average of the season being 10 pounds. Cheeses made in May required 9 pounds of milk to 1 pound of green cheese; those made in October 8½ pounds, the average of the season being 9 pounds. September 30th he made cheese in the proportion of 8½ pounds of milk to 1 pound of cheese when 60 days old, and he estimates the shrinkage on 100 pounds of green cheese made in May, at 17 pounds, and that made in October at 7½ pounds to the 100 pounds, the average shrinkage being 11 pounds in the 100.

Notes on a Couple of New-Hampshire Farms.

MESSEES. EDITORS—A few days since I took an excursion of a few miles among the farmers of this section of our State. Two of the farms I visited presented some features I thought worthy of notice. They are not large farms, but are cultivated in a most creditable manner by the owners thereof, who, by the way, are not, strictly speaking, farmers by profession. Yet they both possess an innate love for agriculture and its improvements, and enter into its prosecution with a spirit and energy worthy of commendation, as their examples will stimulate others to follow in making similar improvements upon their heretofore too much neglected farms.

The Farm of Col. Tappan.

The first farm I shall notice, is that of Col. M. W. TAPPAN, who resides in the pleasant and thriving village of Bradford. Col. T. is now some over 40 years of age; is a lawyer by profession and holds a prominent standing in our courts. He has been much in office, having several times represented his native town in our State Legislature, and for six years preceding the 4th of March, 1861, was member of Congress from this district. In the call by the President in April 1861, for 75,000 "three months troops," he was commissioned as Colonel in the 1st N. H. Regiment, and was with Gen. Paterson's Division in Virginia. In all of the above named positions he has most faithfully and honorably discharged the several trusts confided to him. As a farmer he takes rank among our best ones—as a man of taste and judgment in the establishment of his grounds and farmstead, he is without a rival in our county.

The home farm contains about 75 acres, and has been in his possession seven years, previously to which, it had not been well cultivated. During the time it has been under his management, the hay and other crops have been quadrupled. The soil is mostly of a deep, loamy nature, easily worked, and when well manured and cultivated, very productive, as the splendid grass, grain and hoed crops at the present time most fully prove. A considerable portion of the farm is alluvial or intervale land, and not liable to be overflowed in freshets. The Warner river (so called,) passes through the farm. He has recently built a very neat, tasteful and substantial bridge across the stream, adding very much to the looks and value of the farm, as a large portion of the cultivated grounds are on the south or opposite side of the river from the farm buildings.

There is a pasture of some few acres near his house, and at the distance of three-fourths of a mile, is his cattle pasture of about 40 acres, being one of the best grazing lots I have anywhere seen this year. There are eleven cattle, (cows and oxen) kept in it this season. Twice the number could be well kept there the present season, the feed being, in consequence of the abundant rains we have had since the 1st of June, super extra. He has also a sheep pasture and some acres of natural meadow, which yield large crops of second quality of hay. The stock kept upon the farm at the present time consists of 3 horses, 1 yoke of large oxen, 4 cows, some young cattle, and 40 sheep. He does not intend to increase the number of cattle on the place, but will increase his flock of sheep sufficiently large with his other stock, to consume the hay and other winter forage produced on his farm.

When he commenced the improvement of his farm, he had not the means of making much manure, and could not purchase it, but commenced purchasing ashes, paying 17 cents per bushel for unleached, and half that price for leached ashes. Upon his farm they have operated as a manurial application admirably. The ashes have been applied to the hoed crops, and as a top-dressing to the grain and grass crops, in most instances making their mark as distinctly as would have been the case in an ap-

plication of farm-yard manure, guano or superphosphate. In the spring of 1860, he sowed two acres of ground with spring wheat, on one acre of which he applied 60 bushels of unleached ashes and harrowed them in with the wheat, otherwise the treatment of the two was alike; the wheat on the ashed part proved very much better than on the other portion of the field—so with the grass last year, which was mostly clover. This year, there is a most striking difference in the two portions of the field. The ashed portion has upon it a splendid crop of timothy or herds-grass, well intermixed with clover and honey-suckle. The portion of the field not ashed, is mostly clover and sorrel. The division line is as distinct as black and white: very probably, had the past and present seasons been as dry as we sometimes have, the result would have been different; but the abundant and timely rains of the present and past seasons have drawn forth the fertilizing qualities of the ashes and thus they have exhibited such marked effects.

Near the farm buildings, on some hillocks, ridges, and sloping grounds, in the whole amounting to many acres, was a growth of trees of various kinds, from 50 to 60 years growth from the seed. These acres of woodland have been judiciously thinned, and all the shrubbery and undergrowth grubbed up and removed. Carriage drives have been graded, and narrower paths, straight and curved, have been cut in various directions; seats, arbors and cheap and tasteful summer houses have been distributed at many points, rendering the whole park and grounds most delightful in the warm days of summer. To have got up such a park by planting trees, would have required the expenditure of hundreds if not thousands of dollars, and half a century's time. There are thousands of farms in New England, that might be beautified in a similar manner without any great expenditure of money, and we fondly hope the praiseworthy example of Col. T. may not be lost among our farmers.

The fruits, flowers, shrubbery, &c., immediately about his house and office, correspond with the other fixtures of this lovely homestead.

There is a long and narrow strip of low ground running westerly between higher lands; it was formerly wet and filled with bushes and aquatic plants. These have been eradicated, an open ditch cut through the middle, and the ground so drained as to produce a heavy growth of English grass. The ditch carries off the cold water oozing from springs at the base of the higher grounds. Towards the lower end of the ditch, he has had circular excavations 4 feet in depth, and 15 or 20 feet in diameter, walled up. In these small ponds he rears great numbers of trout. They are fed with regularity, and are as tame as barnyard fowls. I saw them fed, with crumbs of bread; the instant the bread struck the water, several of the large trout (probably weighing a pound or more,) would leap above the surface of the water, affording exquisite pleasure to "lookers on." Feeding poultry is not a circumstance to that of feeding trout. In the autumn they are occasionally fed till the deep snows come. Last year, after the pond had frozen over, he sent a boy with some chopped meat to feed to the fish. After having cut away the ice in a circle of a few inches, and dropping in the meat he lay down upon the ice, with his face immediately over the hole for the purpose of seeing them eat their rations. A large trout seeing the boy's nose near the surface of the water, and probably thinking it *bait*, quick as thought, rose to the surface and grabbed the chap by the nose. This unexpected bite caused him to give a very sudden and violent jerk of his head, and thus threw the fish upon the ice; the trout weighed about three-fourths of a pound. The poor boy carried the marks of the trout's teeth upon his nose for nearly three weeks. Some, perhaps, may think the above "a fish story." Nevertheless, it is as true as any other part of this letter.

Thousands of our farmers with a little pains-taking and labor in excavating for small ponds, where the water from brooks or springs could be made to flow into them, could cheaply provide themselves with "delicious brook trout." Trout can be reared with less expense than poultry.

Col. T.'s farm is handsomely fenced with stone wall and board fence; most of this fence is made of narrow boards and whitewashed. Substantial gates, with tall side posts and arched tops, either painted or whitewashed, add much to the appearance and value of the farm. The opening and shutting of a gate for the passage of a team is a very trifling affair, compared with that of taking down and putting up a "pair of bars" of five rails. In this matter of farm gates, the farmers in the Col.'s vicinity are following his example, as they are in many other of his improvements.

Much attention is paid on this farm to the preparation and composting of manure, and keeping all the hoed crops free from weeds. He is fully aware, "that one year's seeding makes seven years' weeding," which accounts for the almost entire absence of weeds of every description among his hoed crops.

His grounds are well stocked with various kinds of fruits. He has a large variety of plum trees, most of which are "over-loaded" at the present time, as is the case with most of the plum trees I have seen elsewhere. We can account for the abundance of plums and cherries among us this year, only upon the supposition that the heretofore troublesome curculio has *succeded*.

The other farm I visited, is owned by MOSES GOULD, Esq., the efficient and gentlemanly conductor on the Concord and Claremont railroad, (from Concord to Bradford, 28 miles.) This road was opened in September, 1849. Mr. G. was then appointed conductor, which office he has filled without *break* to the present time. For nearly thirteen years he has passed over the road twice each week day, averaging at least 300 times each year. For several years past, in company with another person, he has been somewhat largely engaged in supplying the road with wood. In this business he has been quite successful.

Some three years ago, near the village of Bradford, he purchased a farm of about 70 acres. The farm, when purchased, was "badly run down," though naturally a good soil. During the time he has owned the place he has greatly improved its appearance, and doubled the hay and other crops, having exchanged at the hotels considerable quantities of hay for manure, besides making use of large quantities of ashes obtained at Concord, at the machine shops, &c., connected with the railroads at that place. He does not pay a large price for the ashes. They exhibit a most beneficial action upon the crops on his soil. The hay crop on the portions of the fields that have been manured and top-dressed with ashes are this year really splendid; many acres will yield from two to three tons of cured hay per acre. His grain and hoed crops are also very good. A field of spring wheat just in blossom shows the largest heads I have ever seen. If the wheat escapes injury from midge, louse and rust, he will harvest an extra heavy yield.

The cars leave Bradford between 8 and 9 o'clock, A. M.; and return to B. at half-past 4, P. M. From that time till "dewy eve," Mr. G. labors upon his farm with a zeal and interest that "never tires." Thus far in the management of this farm, he has expended his money and labor for the useful rather than the ornamental. The balance sheet of out-goes and income exhibits a very gratifying result.

Many persons have thought that Messrs. S. and G. were foolishly expending their money in the purchase of such large quantities of ashes for manurial purposes; but "science and practice" both concur in affixing to them a high value as a manure for farm crops, more especially upon fields that have been long in grass, whether grazed by cattle or mown for hay. But few farmers are aware of the great amount and kinds of mineral matter that a crop of two or more tons of hay abstracts from an acre of land, and these mineral matters are identical in kind and quality—though not in relative proportion—with those contained in good wood ashes. Why does the growing and annual removing of our crops ultimately impoverish the soil? Why, it is mostly occasioned by the abstraction of the available mineral ingredients of the soil by the growing crops, which are harvested and carried from the land.

Professor ANDERSON of Glasgow, basing his calculations on the best analyses, and on extensive agricultural statistics gathered in late years by the Highland Ag. Society of Scotland, makes the following estimate of the mineral ingredients removed from an acre in a crop of $2\frac{1}{2}$ tons of hay, viz., 129 lbs. potash, 5 lbs. soda, $35\frac{1}{2}$ lbs. lime; magnesia, chlorine, and sulphuric acid, 66 lbs.; phosphoric acid, 22 lbs.; silica, (sand,) 134 lbs.—making in the whole, $391\frac{1}{2}$ lbs. of mineral matter removed from an acre of land in two and a half tons of hay. (I have in the above figures, omitted the fractions, but the sum total is right.)

From the great quantity of potash (over 129 lbs.) taken up in the hay crop, it will readily be seen that unleached ashes are much more valuable for the hay crop than leached ashes; $2\frac{1}{2}$ tons of hay take from the soil more than four times as much potash as a crop of 28 bushels of wheat and straw included does. From which it is very natural to infer that a dressing of ashes on grass land would prove more beneficial than on wheat.

From Mr. LAWES' experiments in top-dressing grasslands with various kinds of mineral manures, each kind separate and in combination, the fact is clearly established that the increased crop of grass was mostly due to the potash and phosphoric acid in the mineral manures used. He says:

"The results in the table (of analyses) show that it was chiefly for its supply of *potash*, and next for that of *phosphoric acid*, that the mixed mineral manure was so efficacious in increasing the growth of grasses, when there was a sufficiency of available *nitrogen* within the soil." Again he says: "To turn to the figures in the table, the most striking point of contrast afforded by the view of the results of the five analyses given side by side, is the very great increase in the percentage of *potash*, wherever the mineral manure containing it was employed."

We suppose there is a *law* governing the nutrition of plants, and where they are grown in a soil containing in an available form all the necessary mineral constituents required in the growth of plants, they will take up just those relative proportions of mineral matters necessary for the most perfect development of the plants, and such always possess the highest feeding qualities, and are therefore more healthy, nutritious, and valuable as food for animals. But the *law* above alluded to, admits of much variation. Grasses will grow where there is a deficiency of potash in the soil; they will also grow where there is a deficiency of phosphoric acid and lime—a relative, not an entire or absolute deficiency of these in the soil, for on such no valuable plant can be grown. But yet grass can be, and is grown largely in some districts where the deficiency of phosphates is so great that cows and young cattle subsisting on it, or hay made from it, are afflicted with the bone disease. They have an insatiable hankering for bones, which, if they can obtain, they will chew for the half-hour together.

To show the difference in the amount of potash (on the same kind of soil,) in the grasses differently manured as reported by Mr. Lawes, I give the following. He says:

"Whilst the unmanured produce contained only $32\frac{1}{2}$ lbs., and that by ammoniacal salts alone only $38\frac{1}{2}$ lbs. of *potash*, that grown by the mineral manure alone (supplying potash) contained $72\frac{1}{2}$ lbs.; that by the mineral manure and smaller amount of ammoniacal salts, nearly 122 lbs.; and that by the mineral manure and the larger amount of ammoniacal salts, nearly 133 lbs. of potash per acre annually. The *phosphoric acid* was increased from about $7\frac{1}{2}$ lbs. per acre per annum without manure to scarcely $10\frac{1}{2}$ lbs. with ammoniacal salts alone, to $16\frac{1}{2}$ with mineral manure alone, to about $27\frac{1}{2}$ lbs. by the mineral manure and ammoniacal salts together."

The deductions to be drawn from the above statement, are, 1st, that the application of mineral manures containing potash (good unleached ashes contain all the mineral ingredients found in our cultivated crops)—greatly increased the crop and the quantity of potash in it. That a mixture of mineral and nitrogenous manures will still farther increase the crop of grass and the potash and phosphates

in it, thus rendering it every way more valuable for feeding purposes, over that not manured, or manured singly, with either mineral or nitrogenous manures. Hence, it will be more economical to apply both kinds at the same time. To apply ashes and stable manure together, in their raw state, might result in much loss of ammonia. Doubtless the better way would be to compost ashes, manure, and a sufficiency of muck to absorb and retain the gases, while the heap was composting—3 to 6 months time might be required for this operation—but it would pay, no doubt of that.

But if any object to the labor of composting, then use the ashes alone, if you can obtain them at a reasonable price. In the Co. GENT., May 1st, I gave the result of experiments in top-dressing grass lands with several kinds of manures, including ashes, as reported by R. S. Rogers of South Danvers, Mass., and H. J. Hodges of the same State. They both reported most favorably of the value of ashes for top-dressing grass lands. But ashes, like all other special manures, will sometimes fail to exhibit favorable results. The reason why it is so, in all cases, is not well understood. Similar facts in regard to the use of superphosphate, and gypsum on corn, have occurred within my knowledge in this place the present year. In some instances superphosphate and gypsum have exhibited a most favorable result—in other instances, as I was told by a farmer a day or two since—it has failed. He said he used a bag of superphosphate, and says, "I defy any man to tell where the phosphate was used and where it was not." Alternate rows were experimented with, but no difference in them.

LEVI BARTLETT.

Warner, N. H., July 22, 1862.

[For the Country Gentleman and Cultivator.]

The Potato Rot and its Prevention.

I take the liberty of making a few remarks on the potato disease and my method of saving potatoes when the rot has made its appearance. Divers opinions have been advanced relative to the cause of the potato rot, but I have heard no reason assigned that was satisfactory to me, except that of atmospheric influence, which we have no remedy to counteract.

Truly an excess of moisture (when the disease is present,) will cause a decomposition of the potato, but this is not the cause of what we term the potato disease. As soon as we discover the leaves and stalks of potatoes become suddenly wilted and black, when there has been no frost to cause it, we may rest assured the disease is present, and I believe the sooner the potatoes are dug after this appearance the more sound ones you will have, and the more that are partially affected may be saved for feeding purposes.

It is the deleterious sap of the diseased leaves and stalk circulating to the potato that causes it to rot; cut off the communication and you arrest its progress. If partially affected potatoes are separated from the sound ones and spread thin upon the floor of some out-building, they will become dry and keep well for some time, and may be fed to good advantage in fattening cattle. I had over 200 bushels of this description one season, which I fed out for the above mentioned purpose, and saved what otherwise would have been a total loss. The better way is to commence feeding the unsound potatoes as soon as you begin to dig.

I have noticed that some potatoes appear sound except a number of white specks on the surface, and on cutting them I found dark colored streaks extending through the potato, showing decidedly that the potato was diseased; such potatoes if deposited in a heap would shortly ferment and rot. The reason why so many potatoes rot in the cellar is because so little care is taken in selecting all that are unsound. Again, I have observed that when the leaves and stalks of potatoes were suddenly and totally killed by disease, that very few potatoes became rotten,

the circulation of the deleterious sap being entirely arrested. The method I pursue when I find my potatoes diseased is to dig them as soon as possible (in fair weather if practicable,) and sort out all the unsound ones I can discover while picking them up; and deposit the sound ones on the ground in a long narrow heap in the form of a roof and then cover them with straw laid on lengthwise from the ground to the top of the heap, for the purpose of protecting them from wet in case of rain, and then put on sufficient earth to prevent them from freezing. If there should be severe frost, let them lie a few days, and then uncover and carefully sort and put into the cellar, and keep your cellar cool until the frost becomes so severe that there may be danger of freezing in the cellar, then close up for winter. I have never suffered any loss from potatoes rotting in the cellar since I have used the above mentioned means to prevent it. M. M. HOWARD.

Lyn, C. W., July 29.

[For the Country Gentleman and Cultivator.]

REMEDY FOR FOOT AIL.

MESSRS. EDITORS—In the last number of THE CULTIVATOR, I notice an inquiry for the cure of foot ail in cattle, over the letters S. L. F., Palatine Bridge, N. Y.

I have in the last twenty-three years, had many cases and tried several remedies. The following is a very simple, and I have found it a safe and effectual remedy, in every case that I have had occasion to use it, for the last seven years. I think I can safely say that I have been successful in at least thirty cases, for myself and neighbors in that time, and never failed of a speedy cure in from three to five days.

Tie the animal to a post in some suitable place, or in a roomy stable, and wash the foot well with strong soap suds. If it proves to be a severe case, then put about a table spoonful of fine salt in the claw or part affected, and pour about half the quantity of spirits turpentine over it. I have found it much better than the old fashioned and cruel torture of drawing a tarred rope through the claw every morning.

I would say, if the animal is not relieved in two days, repeat the application. I have seldom had occasion to repeat it, although about two years ago one of my neighbors called on me to see a lame cow, one that he was fattening, and that had all at once become so lame that she could with difficulty walk. It was so bad a case that one could smell the disease as she hobbled along. After washing and applying the above every other day for a week, she got well over it in a short time, and made as nice a beef as any one could wish.

The writer mentions that there are two kinds—the worst is that which breaks out above the hoof. I would say that I have never seen any except such as become diseased in the claw, and in some severe cases they break out on the upper part.

W. G. W.

Salem Co., N. J.

Soldering Irons and How to Use Them.

When we consider that accidents will occasionally happen in the best regulated families, and that tin ware is so easily injured, we are surprised that every house-keeper and especially every dairyman does not own one of these useful tools. In most families its trifling cost would be saved in a single year.

The utensils to be soldered should be dry and clean, as it is useless trying to solder dirty tinware.

The best proportion of lead and tin for solder is one part lead to two of tin.

The soldering iron should not be heated sufficiently to change the color of the copper, as it hurts the metal.

The best preparation for brass, copper, zinc, lead and iron, is *sal ammoniac*. Dissolve a small piece in cold water, and apply with a swab or brush. These metals should be filed or scraped bright before the *sal ammoniac* is applied. Bright tin requires nothing but powdered rosin.

ST. LAWRENCE.

Introducing Italian Queens---A New Method.

EDITORS CO. GENT.—Last season I first attempted to introduce the Italian variety of bees in my apiary, but the method of doing it was new to me, and like some others, failed in the attempt. This season I tried it again and succeeded after the experience of last year. I obtained my queen from Mr. Quinby. She was of a beautiful color. I have raised a few queens from her which I introduced without a cage—a new method to me, and comparatively easy. The method is as follows: After the swarm has been deprived of the native queen and cells four or five days, take a cup containing a small amount of honey, and put the queen in, being sure you get her completely covered with honey as quick as possible, without injuring her; then with a small spoon carefully put her in the top hole of the hive, and by the time she is licked off she is all right. The few trials I have given this method have not failed in a single instance, but as I have not thoroughly tested it, I would advise none but our large Italian bee raisers to try it, and then communicate through the columns of the COUNTRY GENTLEMAN. During this month there will be more queens introduced than in any of the past ones; hence it will be necessary for our bee-keepers to communicate as quick as possible, so as to give amateurs a chance.

L. A. ASPINWALL.

Ireland's Corners, Aug. 6, 1862.

A PROFITABLE HENNERY.

The other day we went up to take a look at the garden of our venerable friend, F. Wingate, Esq., widely known as the manufacturer of the old fashioned corner clocks, who, having retired from business, now resides on Green-street, opposite the Methodist church—but before entering the garden we stopped to take a look at the poultry yard, and while there obtained from him some interesting items of his experiences in *henology*, which may prove valuable to our readers.

Mr. Wingate's poultry house and yard are both well planned—in winter the hens have a warm and commodious apartment, and in summer they are given free use of the yard, but never allowed out of it. Fresh water is kept by them all the time. The apartment in which the hens roost is about ten feet square, and it is also provided with several box nests. There are two perches for the hens to roost upon, about eighteen inches apart, and under them is a broad shelf for the purpose of catching the droppings. This is supplied daily with loam, ashes, stable dressing, &c., and is scraped off each morning. Mr. Wingate finds this a most efficient fertilizer, applying it to his grapevines and also to other garden crops, with the best results. Adjoining this room is a larger one, which is used for the winter quarters of the poultry, connected with the other by a sliding door for the use of the poultry. Each fall Mr. W. collects from the streets about two cart loads of fallen leaves, and places them upon the floor of this room; consequently the hens have a warm, dry, and comfortable chance all winter. But this is not all; the leaves thus used become partially rotted, and with the droppings of the poultry, make a considerable pile of excellent dressing. Farmers and others who keep hens, and allow them to freeze to death upon the cold, damp manure heap of the shed, should make a note of this.

In feeding his hens, Mr. W. makes use of the waste from the kitchen, as he keeps no pig. The potatoes, &c., are mashed up and mixed with oat meal; and besides this, corn is given them in sufficient amount to keep them in good condition. He also uses what bones accumulate from the meat used in the family. For the purpose of crushing these up fine, he has a substantial block with the top dug out in the form of a bowl, into which the bones are placed, and with an axe reduced to a form readily eaten by the hens. At present Mr. W. has twenty-four hens and a crower. He keeps the hens until they are three years old, and then sells them in the fall, after the best season of laying is over. To replenish his number, he buys pullets of some good laying breed.

Mr. W. keeps a correct account of the number of eggs laid by his hens. The number of eggs laid each day are set down, and each month added up. The account of eggs laid last year, (1861) by 23 hens, as follows:

January.....	48 Eggs.	July.....	345 Eggs.
February.....	169 "	August.....	309 "
March.....	357 "	September.....	241 "

April.....	393 "	October.....	95 "
May.....	473 "	November.....	19 "
June.....	403 "	December.....	18 "

In other words, 239 dozens of eggs, which at 15 cents per dozen—the average price during the year—would amount to \$35.85. The cost of keeping the hens for a year, Mr. W. considers to be \$8, as the waste from the house he does not reckon at full value. This is a profitable henery, and is a good paying branch of Mr. Wingate's establishment.—*Maine Farmer.*

[For the Country Gentleman and Cultivator.]

A BAD WEED---SORREL.

MESSRS. L. TUCKER & SON—Enclosed I send you a stem of something, but what I cannot tell; I want you to tell me, if possibly you can. It grows in a swamp, and in the black land where I have my root crops, and this is the first year I have had it. It is in large stools like Cock's-foot grass.

Would you be so kind as to state in THE CULTIVATOR, the best way to get rid of sorrel, as I am very much troubled with it. I have had five acres in clover, thinking I could smother it out, but it has let me have very little clover. I intend plowing the second crop of clover in, but I am afraid I shall fill the land with the seed of sorrel. WILLIAM MAUD. Milwaukee Co., Wis.

The plant sent by our correspondent is the *Bromus secalinus*, a celebrated weed, which has caused a great deal of controversy, and is known in the north as *chess* and further south as *cheat*. The latter name is quite appropriate, because by adopting the opinion that it is degenerated wheat, some farmers have been cheated out of good crops, and also been cheated into cultivating a weed. The fallacy of the opinion is proved by the fact that some skillful farmers have entirely eradicated it from their lands, where it has not again appeared.

Sorrel should be treated as any other weed—that is, worked out by cultivation. Hoed crops, as corn, beans, potatoes, &c., well cultivated, with a free use of manure, will make the land clean in time. It is not usually troublesome in rich soil, and in some localities, the use of lime and ashes has proved beneficial.

[For the Country Gentleman and Cultivator.]

Vermin in Poultry.

Last winter, after buying a lot of live turkeys, and turning them loose, I noticed a few of them appeared stupid, and on examination found them, as the saying is, "as lousy as witches." I made an application of a little kerosene oil, and from their improved appearance in a few days, am satisfied that the varmints left on the double quick. A. Moss.

LATE AND EARLY WHEAT SOWING.—Speaking of the wheat worm and the propriety of sowing late—in THE CULTIVATOR for 1839, vol. 6, page 26, is the report of a committee, (J. BUEL, chairman,) designated at the State Agricultural Convention, for the investigation in regard to the grain worm—"that all wheat sown before the 10th of May was more or less injured; all that was sown after the 20th of May escaped its ravages; of that which was sown between the 10th and 20th, some escaped injury, and some was considerably injured." In addition to their own observations, they state—"that an observing farmer in Wallingford, Vt., nearly 100 miles north of Albany, sowed parcels severally on the 25th of April, on the 19th and 25th of May. The first sown was virtually destroyed by the worm; the second partially so; while that sown on the 25th of May entirely escaped, and was a full crop." The committee also quote from a letter to one of them, from Mr. R. Forsyth, residing at Champlain, the northern town in our State, which gives his observations for a series of years, from 1833 to 1838. J. R. PRINCE. Erie Co.

[For the Country Gentleman and Cultivator.]

CHAPTER ON WINE-MAKING.

As grape culture has become an "institution" of this country, I propose to make a few remarks on domestic wine making for the benefit of your grape-growing readers.

In order to make the best wine that the kind of grape grown will admit, allow the fruit to remain on the vines till fully mature, then pick carefully, and remove from the clusters all unripe or imperfect grapes; then put your selected, best grapes into a tight cask well cleaned, in small quantities; say about a bushel at a time, which are to be mashed with a common clothes pounder, or other similar instrument, till the pulp and seeds become well separated, and the juice of the grapes thoroughly expressed.

My remarks will be confined to wine making by those who merely desire to make a barrel or less for "home consumption;" and who are not expected to be provided with the facilities that professed wine makers possess.

Having pounded the first basket of grapes, turn the contents of the cask into another vessel, and proceed as before till all your grapes are beaten or mashed, when you may proceed to express the *must* or pure juice of the grape, entirely separated from the skins, pulp and seeds of the fruit.

In the absence of a wine press, this may be done by placing the mash in a strong bag, made of strainer cloth, and then press out the *must* in any manner that may be the most feasible. For expressing a few gallons, it may be done with the mere hands, but when a barrel or more is made, some lever should be brought to bear upon the bag, in order to express the most of the *must*.

My system of applying the lever is as follows: I first set a large wash-tub against the studding of the side of my barn floor, upon which I lay a board, upon the centre of which the bag of mash is placed. I then nail a strip of plank to a stud, of the right height to receive the end of the lever, which is made of plank, and about eight inches wide where it comes in contact with the bag, and about eight feet long, being tapered off from the bag to four inches wide at the handle. The pressure exerted by such a lever, will be apt to rend the bag, unless quite strong, and but very little *must* will be lost, through the cheapness of such a temporary press.

On this plan enough grapes may be mashed, and the *must* expressed, to make a barrel of wine, in half a day, by one person.

The next question is, what is to be done with the *must*, whether it be five, ten, thirty or more gallons? Shall sugar and spirits of any kind be added to it?

It is contended by some people, that by adding anything at all to the pure juice of the grape, it destroys the value of the wine, in their estimation, and makes rather a *cordial* than wine.

Mr. Longworth, the celebrated wine-maker of Ohio, adds nothing whatever to the *must* of the Catawba grape, from which most of the Ohio domestic wines are made. He puts the *must* of a score or more of vineyards into a large cistern, then drains it off into large casks for fermentation, after which the wine is bottled, and in due time sent to market; but in no case, I believe, till it is a year old.

But Mr. Longworth's wines are not palatable to most American tastes, and are considered by many people as but a grade better than our best bottled cider, although he finds sale for large quantities at \$5 to \$8 per dozen bottles. Nor are the wines of other Ohio grape-growers, who adhere to the *pure juice* principle, any better.

The addition of sugar—the pure granulated, or best white coffee, should be used, if any, at the rate of two to three pounds per gallon—the latter quantity preferred in all cases, where the expense is not considered.

The next question is, shall any kind of spirits be used? Some wine makers contend that it is impossible to make a

really good wine without adding spirits. I have my opinion on that point, which is, in a measure, that it greatly depends on the variety of grape used, whether spirit of any kind is absolutely necessary, in order to make a really good wine, as the best judges would pronounce it. There are some varieties of grape from which, in my opinion, it is impossible to make good wine without the addition of spirits, while other kinds make a saleable wine without it. If spirits be used, let it be *alcohol*, which is without flavor, or what is called "*pure spirits*," which is a much cheaper article, not half so strong, and also wholly free from any flavor aside from that of *strength*. It is not generally kept on sale at the stores, but may be obtained at any distillery where alcohol is made. Three gallons of alcohol, 95 per cent. proof, such as is usually sold by druggists, or six gallons of pure spirits, to a barrel of wine, is the *maximum* that should be used; while half that quantity will generally suffice to keep the wine from souring, when the warm weather of the following season comes on.

Both the sugar and the spirit should be mixed with the *must* as soon as pressed out, when the wine is made. It should then be put into a suitable cask. Wine casks, such as imported wines have been sold from, are best; but alcohol casks are very good, and will not impart the least unpleasant flavor to the wine. The casks should be well cleansed, and if at all impure, let a brimstone match be burned in the bung, made of a strip of rag, dipped in melted brimstone, lighted, dropped into the cask, and after a minute or two put in the bung to remain a few hours, when it is ready for the wine. The Ohio wine-makers burn such matches in all their casks, without regard to their condition; but I am of the opinion that such a process is not necessary, except in cases where the casks contain some manifest impurity.

The wine being placed in the cask, it should be put in a cool, airy cellar, where the thermometer stands in summer at about 60 deg. Fahrenheit. It should be so placed that the wine can be drawn off, without changing the position of the cask, the tap-hole being previously made and stopped with a plug, and about eight inches from the lower edge of the chime of the cask. If the tap-hole is lower, the sediment of the cask may not settle below it, which would render racking off the wine in a pure state impossible. If the quantity of wine be less than a barrel, a half barrel, or a cask, serve it in the same way, but always have the cask *full* when fermentation has ceased, and for this purpose a gallon or so of the wine may be kept separate in a jug or demijohn, to be used in filling up the casks.

The bung being driven in, a small gimlet hole should be made at the side of it, as a vent, into which place a spile, so loosely that the air will escape around it, or this vent may be left open for two weeks, when the spiles may be put in and removed daily, to allow the gas to escape, till it ceases to escape altogether; then start the bung, fill up the cask to the bung-hole, when close all tightly. It will be well to remove the spile a few times during the three following months, to allow the collected gas to escape, but that is not very important.

In the following April or May, according to climate, the second fermentation commences, when the wine should be drawn off into another clean, pure cask, the sediment filtered, and all put under *fining* process.

There may be four or five gallons of thick sediment, which is to be purified as follows, the process being *original* with me, and a very good one:

Take ordinary white flannel, which sew around a wooden or an iron hoop 18 to 20 inches in diameter, tapering down the bag to a point, two feet long at least. This strainer when made is funnel shaped, and to the hoop of which three strong cords are to be attached to suspend it, so that the extreme point of the cone will hang about a foot from the floor. Place a pail under it, and pour in the sediment, emptying the pail a few times, till it runs clear, when the strainer may be filled, and left to run with its contents, which will require about twenty-four hours to completely purify the sediment of a barrel of wine. The

latter part of the running may be into a jug with a funnel in it, which will keep the wine, perhaps, some better than if it ran into a pail. All the sediment will be found adhering to the sides of the strainer, and what runs out will be much purer than that which is drawn from the cask before the sediment is reached.

The original cask may now be washed clean, and the wine returned into it, when it should receive the *fining* matter, and then be placed in position for racking off again the following fall.

Take the whites of two dozen of hens' eggs and beat them, after which mix and beat them with a gallon of wine, which should be left out of the cask for the purpose. This mixture is then to be put into the cask, and the whole stirred at the bung; then fill up, bung tight, and nothing more is required till fall.

I will here observe that an excellent process for allowing the gas to escape at the first fermentation, is the use of a small glass or tin *syphon*, which is fitted into a hole in the bung of the cask, and the upper end placed in a cup or bowl of water, which allows all the gas to escape through the water, while no air can return through the same channel. The Ohio wine-growers use a syphon, but I have made very excellent wine without one, and do not consider them absolutely essential, though they are better than the spile system.

In October the wine may be racked off the last time, when if rightly made and managed, it will be very clear, and equal to the most of imported wines. That which I made from the Concord grape in 1860—two casks—on the above system, was sold to wine dealers, who pronounced it the best *native* wine that they ever tasted.

It requires skill to make a good wine; and all the minutiae of the process must be well attended to, or there will be a failure.

A very fair wine can be made from almost any variety of grape, when not fully ripe, as is the case sometimes when early frosts occur. In such cases, if the grapes are half green, good wine can be made from them, with sugar and spirit.

Some people seem to think that the addition of *alcohol* renders the wine *impure*, when the grapes themselves contain from *ten to fourteen* per cent. of just such stimulating alcoholic spirit as alcohol itself, while the sugar added contains about as much more. Wine that contains not a particle of sugar or spirit added to it, is still an *intoxicating* beverage, and is not a whit more *pure* as regards *intoxicating* qualities, than that to which sugar and spirit has been added, but is only less intoxicating; still, when a *good* wine can be made without the addition of of these articles, I say let it be done. I have made wine on both systems, and shall probably continue the same practice, according to the variety of grape that I use.

I will here add that the addition of spirit to the must at the time it is expressed, will partially prevent fermentation, but it does not thereby injure the good qualities of the wine, according to my experience.

They who imagine that it requires neither sugar nor spirit to make grape wine that will stand the heat of our summer without injury, will seldom produce anything better than good refined cider. They may call it *wine*, but it can never be made to be popular and in good demand by American wine-drinkers.

T. B. MINER.

Clinton, N. Y.

[For the Country Gentleman and Cultivator.]

LIMING WHEAT TO DRY IT.

MESSRS. EDITORS—I have seen an article in the COUNTRY GENTLEMAN, (page 91,) in regard to liming wheat to dry it, and as I have had some experience with limed wheat, I thought I would give my experience in regard to it.

My experience relates to the grinding, and as far as it goes, is not favorable to the use of lime. It makes the kernel flinty—more like small gravel stones than grain, and it takes the face off a mill stone in a short time. The

flour is of an inferior quality, and the yield small. We could never give satisfaction to customers and ourselves in grinding it, and for that reason always avoided it if we could. We would advise any farmer having damp wheat, to spread it, and dry it by stirring instead of liming.

General Hospital, Annapolis, Md., Aug. 9th.

P. C. MEAD.

[For the Country Gentleman and Cultivator.]

STOCK-GROWING IN VERMONT.

MESSRS. EDITORS—I have lately been looking over the reports of the Cambridge market for live stock, and from the weekly returns of the cattle, sheep and lambs, calves, and horses brought to that market, can be obtained the number sent to that place from the several New-England States, as well as from other places. The reports for 1861 include every week in the year except the first weeks of April and July, which are omitted, for what reason I do not know. From these returns we are enabled to see how those of Vermont compare with other States, and also how they compare with those of the preceding years. For 1861, Vermont sent to this market the following amount of stock:

	Cattle.	Sheep and Lambs.	Horses.
January,	1,020	2,950	
February,	748	2,768	16
March,	1,040	3,212	17
April,	294	1,803	75
May,	152	2,600	87
June,	241	3,114	9
July,	107	2,180	110
August,	1,065	7,447	133
September,	1,520	6,140	
October,	1,818	5,884	33
November,	2,314	5,159	104
December,	976	2,807	

Making in the aggregate, 11,298 cattle, 47,034 sheep and lambs, and 587 horses. From the report of the market for 1860, I find that Vermont sent 16,267 cattle, 82,242 sheep and lambs, and 711 horses, showing a decrease of 4,969 cattle, 35,208 sheep and lambs, and 124 horses. The decrease in the number of horses is accounted for from the fact that a large number of horses were taken from the State for the use of the army.

The Secretary of the Vermont State Agricultural Society, in his last annual report to the Society, stated that there were 55,000 horses in the State, and that during the preceding year (1861) 10,000 horses had been furnished for the army. The falling off in the number of cattle may have been caused in part by the stringent laws passed by the State of Massachusetts, to prevent cattle from other States being brought into that State during the prevalence of the pleuro pneumonia; though I think that the large influx of western cattle into the market, during the spring and fore-part of summer, was the principal cause which kept the cattle back from that market.

There is but one reason that I can assign for the great disparity in the number of sheep and lambs between the two years, and that is, the sudden rise in the price of wool during the summer and fall of last year, caused those who had sheep to keep them instead of selling as they usually have done, and where it was practicable, to increase their flocks to their full capacity. There was a great demand during the fall, for store sheep and lambs to keep through the winter, in anticipation of high prices for wool this season, which up to the present time have been fully realized. Another cause has contributed indirectly perhaps to this result, and that is this: During the summer of 1860, a very severe drouth occurred in the western part of the State, embracing that section the most largely engaged in raising sheep, and in consequence, large numbers of them were sold and taken out of the State. Last year the crop of hay in the same section of the State was good, which made a demand for sheep to restock the farms in that vicinity, instead of there being a surplus to send off. C. T. ALFORD. Wilmington, Vt., Aug., 1862.



ALBANY, N. Y., SEPTEMBER, 1862.

☞ We learn that SAMUEL M. FOX, Esq., formerly of the eminent commercial firm of Bolton, Fox & Livingston, has recently purchased the estate of the late Mrs. HENRY W. LIVINGSTON in Columbia county, four miles from the city of Hudson. He intends establishing himself as a breeder of fine stock upon this extensive farm, which includes, we believe, from three to five hundred acres of land; and, with that view, has just bought out the entire amateur Herd of Col. LEWIS G. MORRIS.

This choice collection of Short-Horns numbers twenty-two head, and was sold to Mr. FOX by Col. MORRIS, at prices which must be considered as encouraging, in view of the present unsettled condition of affairs, and the varying ages of the animals themselves. Six of them, for example, were bull calves, and two heifer calves, making eight head dropped since the 30th of May last, and all under eight weeks old. For the whole herd of twenty-two, the prices per head ran from \$350 to \$700.

Mr. FOX must be regarded as very fortunate in obtaining such a herd to start from; and, with the means and attention which he proposes to devote to the subject, he can hardly fail to rank hereafter among our most prominent owners and breeders of Short-Horns. As to Col. MORRIS, we scarcely know whether to congratulate him upon the brilliant result of this, his second "last appearance" on the Short-Horn stage, or to express the hope that the curtain may sometime rise again on the familiar pastures of Scarsdale and Fordham—disclosing yet other "select roans" in the foreground of the tableau, with the experienced manager himself smilingly caressing them, and sure of once more winning a storm of applause whenever he shall actually conclude to wean himself from his favorites, in a last "final benefit."

PLAN OF CARRIAGE HOUSE.—The plan of a carriage, house and horse barn, from a Yates county correspondent, is well designed in every respect, with the exception of a serious objection—the stables for the horses are in a basement or cellar. Owners of horses, who desire to secure them as much as possible from the diseases and other ill-effects of damp stables, have now generally discarded cellar stables. Under these circumstances it seems hardly necessary to incur the expense of engraving the plans. We may remark, however, that where there is a natural drainage effected by a deep bed or subsoil of gravel, a sufficient degree of dryness may be secured by double walls, to intercept the moisture from the earth banks. There are not many places where this essential could be secured.

The plan sent us is for a building 26 by 38 feet. It has seven stalls in the basement; a carriage house, harness room, and bins for grain next above, and a hay loft over the carriage house. It is so arranged that no dust can pass from the loft to the carriage room. A shoot extends from the hay-loft to the basement for the discharge of hay, and tubes from the granaries to the basement for feeding the animals. It will be perceived that unless the basement is set well in the ground, it will make high pitching to place hay in the loft.

AN EXPERIMENT IN HAY-MAKING.—A good deal of discussion has occurred at different times as to the cost of manufacturing hay with modern machinery. A few days since, we performed an experiment, using a mowing machine, old-fashioned revolving horse-rake, and Gladding's horse-fork. We report the trial made, because it was performed without any view whatever, to such a report, most of the hands being rather inexperienced, and without the superintendence of the proprietor. In most cases, farmers would drive work much more expeditiously, even for ordinary every-day business. Instead of unloading a ton of hay in five or ten minutes, twenty was more commonly consumed in this experiment. The hay was drawn over half a mile, which also required more time than would be necessary in other instances.

Cutting 5 acres of clover, paid 50c. per acre,..... \$2.50
3 men 2 hours each, raking and bunching,..... 0.50
3 men and 1 team, $\frac{1}{4}$ of a day, drawing,..... 4.00

Cost of making and drawing 5 tons,..... \$7.00
or 87 $\frac{1}{2}$ cents per ton. The men were working by the month, at a little less than a dollar a day, and the team alone was estimated at over two dollars a day, which is more than farmers would usually allow. We think it would be safe to estimate the cost of manufacturing and storing hay, with all the contingencies of weather and accidents, at a dollar a ton as the highest; and in many instances, with the best management, it would cost but little over half this sum, by using mowing machines, horse-rakes and horse-forks. J.

☞ JONAS WEBB has sold out his flock of South-Downs, and WM. SANDAY imitates the example with his no less celebrated LEICESTERS. With these sheep, indeed, he has been for fourteen years past, almost beyond competition, and, at several of his more recent lettings, he has obtained larger prices than were commanded for the famously high-priced South-Downs. Out of the nine prizes at Battersea, Mr. SANDAY took seven. At thirteen shows, in thirteen successive years, he has taken no fewer than sixty-two prizes and twenty-three commendations. At his Sale, July 9th, there were 73 rams set down for sale, but one was withdrawn, being lame, and not in a fit condition to be offered. The result with the others, was as follows:

	Average.			Total.		
	£	s.	d.	£	s.	d.
30 Shearlings.....	24	19	9	749	14	0
22 Two-Shears.....	30	14	9	676	4	0
12 Three-Shears.....	26	3	3	313	19	0
5 Four-Shears.....	24	3	0	120	15	0
3 Five-Shears.....	15	1	0	45	3	0
Total.....				£1,905	15	0
Average of 72 head.....				£26	9	4 $\frac{1}{2}$

But, aside from there having been a far smaller number sold, these prices are not up to those attained at Mr. WEBB'S Sale of last year, when 208 South-Down rams went for an average of £27 14s. each.

SUGGESTION TO HORTICULTURAL SOCIETIES.—In offering or awarding premiums for "floral ornaments," fine flowers and neat arrangement are not enough, unless there is fitness in the use of the material composing them. We have seen temples built of roses, and in one case a *flower-lady*, that is, a girl wholly made up of flowers, face, arms, crinoline, and all. It should be always borne in mind that flowers should be only a *decoration*, not the material for solid masses. A pillar or a basket may be twined with flowers, not made of them. To erect them into solid structures, is like building a barn out of ribbons, or the arch of a bridge of point lace.

Keeping pace with the increasing population, and with the growing demand in Europe for American breadstuffs, the milling business of the United States has grown during the past ten years into immense proportions. The product of the flour and grist mills in 1850 reached a value of nearly \$136,000,000, while in 1860 the returns exhibited a value of \$223,144,369—an increase of 64 per cent. The largest mill is in Oswego, which in 1860 produced 300,000 barrels of flour; the next two in Richmond made 190,000 and 160,000 respectively; and the fourth, in the city of New-York, ground 146,000 barrels. Another use for grain, of not quite so gratifying a character as that of grinding it into flour or meal, shows also an astonishing advance. It appears from the last Census, that in 1860, over 88,000,000 of gallons of spirituous liquors were produced. The Western States made 45,000,000, and the Middle States 37,000,000 gallons whiskey alone. In 1850 the quantity of spirituous liquors produced was 42,133,953 gallons, so that the increased manufacture is 100 per cent. The total number of gallons of proof spirits distilled in England, Ireland and Scotland in 1854—the latest figures we have—was 26,441,537. The increase in the United States of malt liquors is larger than that in spirituous liquors. The quantity made in 1860—including 855,803 barrels of lager beer—was 3,235,545 barrels, an increase of 175 per cent. over 1850.

Mr. ROBERT SMITH, a member of the Council of the Royal Agricultural Society, publishes in the Mark Lane Express, a table of the *girth* in feet and inches, of nearly all the cattle and sheep to which prizes were awarded at the late Show at Battersea Park. As matter of curiosity we give the averages, in one or two classes, of the leading breeds:—

	Average age.		Average girth.	
	3 years	9½ months.	8 feet	7 inches.
SHORT-HORNS—3 Aged Bulls.	1	7½	7	3
3 yearling bulls.	1	7½	7	3
HEREFORDS—3 Aged bulls.	4	10½	8	4½
3 yearling bulls.	1	11	7	1
DEVONS—3 Aged bulls.	3	3½	7	7
3 yearling bulls.	1	7	6	5½
ABERDEEN—3 Aged bulls.	5	2½	7	10
3 yearling bulls.	1	5½	6	5

It seems from this that the winning bulls in the aged classes were youngest in the Devons, next youngest in Short-Horns, next in Herefords, and oldest in the Aberdeens. The girth was largest in the Short-Horns, next largest in the Herefords, next in the Aberdeens, and smallest, as would be expected, in the Devons. Of the yearling bulls, the Short-Horns also girthed the most, the Herefords, averaging 3½ months older, coming within two inches of them, and the Aberdeens in this class falling even behind the Devons.

As to the Sheep, the oldest rams taking first prizes, in the different breeds, girthed as follows:

	Age.		Girth.	
	3 years	4½ months.	6 feet	1½ inches.
Cotswold ram.	3	4½	5	9
Oxfordshire ram.	2	4½	5	7
Shropshire ram.	3	3½	5	7
Lincoln ram.	3	3	5	3
Leicester ram.	2	4	4	11
Hampshire ram.	2	5	4	11
South-Down.	3	4	4	10
Kentish ram.	4	2	4	8½
Dorset ram.	3	6	4	4
Cheviot.	2	2½	4	1

DEVONS IN ALLEGANY COUNTY.—We learn that Mr. WM. SIMPSON, Jr., of New-Hudson, Allegany Co., N. Y., a young and enterprising farmer who has already some fine stock in horses and sheep, has lately purchased four cows, two heifers, one two-year old bull and a bull calf, from the superior Devon herd of E. G. FAIR, Esq. of West Farms, as the foundation of a Devon herd for his own farm.

A "Preliminary Report" on the United States Census of 1860 is in preparation, which, when published, will doubtless afford a wide field for thought in every department of industry, and in none more than in Agriculture. A transcript of the statistics of the agriculture of New-York has been furnished in detail for the forthcoming volume of the Transactions of the State Agricultural Society, and we have long been intending to call attention to some of its results as regards the Farming of our State. Meantime the New-York Tribune has received an advance copy of the "preliminary report" referred to, and we obtain from it the following table, showing the Agricultural Production of the whole Country, according to this and the last national census—having reference respectively to the crops of 1859 and 1849—together with the increase which the last ten years display in the aggregates quoted. While our population during that time has advanced about 35½ per cent., our production of wheat "has increased 70 per cent.; of corn, more than 40; cotton, 110; dairy products, 46; value of slaughtered animals, over 90; sheep and wool, over 10; sugar from cane, nearly 30; molasses about the same; maple sugar, 14; tobacco, considerably over 100; wine, more than 700; hay, nearly 40; orchard products, over 150 per cent."

The table is as follows:—

Articles.	1849.	1859.	Increase.
Wheat, bushels.	100,485,944	171,183,381	70,697,435
Indian Corn, bushels.	592,071,104	830,451,707	238,380,603
Cotton, bales.	2,445,793	5,196,944	2,751,151
Butter, lbs.	248,675,323	460,509,854	211,834,532
Cheese, lbs.	105,535,893	105,875,135	339,242
Animals slaughtered.	\$111,703,142	\$212,871,653	\$101,168,511
Sheep, No.	21,723,220	23,317,756	1,594,536
Wool, lbs.	52,512,959	60,511,343	7,998,384
Sugar, cane, lbs.	237,133,000	302,205,000	65,072,000
Molasses, gallons.	12,700,991	16,337,080	3,636,089
Sugar, maple, lbs.	34,253,436	38,863,384	4,610,448
Tobacco, lbs.	199,752,655	429,390,771	229,638,116
Wine, gallons.	221,249	1,860,008	1,638,759
Hay, tons.	13,838,642	19,139,123	5,290,486
Orchard products, value.	\$7,723,186	\$19,753,361	\$12,030,175

That this increase is to continue we can scarcely doubt.

By turning to the article on the Commerce of the United States, contained in Appleton's just published "Annual Cyclopædia for 1861," which we have already commended so highly—we find that there was a wonderful increase in our shipments abroad, in 1860 over 1859, and in 1861 over 1860. As the crop of 1859, which is the one referred to in the census returns, was not probably exported to much extent until the beginning of 1860, it may be sufficient to compare what we sent abroad during that year, with some of the shipments of '61, to show that we have begun the current ten years well, in point of enlarging our agricultural productiveness:

Exports of Breadstuffs, Provisions, &c., from the United States for the year 1861, as compared with 1860.

Articles.	1860.	1861.	Increase.
Wheat Flour, barrels.	1,926,202	3,092,049	1,165,847
Corn Meal, do.	89,574	104,385	14,811
Wheat, bushels.	13,538,039	28,757,615	15,319,579
Rye, do.	450	1,000,405	999,955
Corn, do.	3,726,786	12,352,024	8,625,238
Butter, pounds.	10,987,495	23,159,891	12,171,896
Cheese, do.	23,552,712	40,041,225	16,788,513
Lard, do.	18,895,178	47,290,409	28,424,231
Tallow, do.	14,895,969	25,820,335	10,924,366
Cut Meats, do.	19,447,163	50,565,753	31,118,590
Pork, barrels.	91,650	116,654	25,004

The only article showing a decrease is Beef, of which we exported 29,013 barrels, and 33,924 tierces in 1861, against 40,003 bbls. and 55,322 tierces in 1860.

"The exports of flour and wheat, reduced to bushels of wheat, for 1861, makes 52,756,837 bushels, at an aggregate value of \$62,959,473," says the same authority. In other words, we exported in 1861 more than *one-half* the total wheat crop of the country in 1849, and not far short of *one-third* that of 1859.

The Chenango Co. Fair will be held at Norwich, Sept. 24-26.

From the editorial accounts of the Illinois State Ag. Society's late Trial of Mowers and Reapers at Dixon, as published in the *Prairie Farmer* and *Rural New Yorker*, we learn that it excited general interest and considerable competition. The prize awards are not to be declared until the State Fair takes place at Peoria. We have not space for anything more than a very brief notice. There were 17 machines entered in competition for the premiums offered for the best mower, and tested as mowers in competition for the premium offered for the best combined reaper and mower, as follows:

1. Wood's Two-Wheel Mower, W. A. WOOD, Hoosick Falls, N. Y.
2. Wood's Jointed Bar Mower, do. do.
3. The Ohio Mower, E. BALL, Canton, O.
4. The Excelsior, CLINE, SEIBERLING & HOWER, Doyleston, O.
5. Kirby's Mower, D. M. OSBORNE & Co., Auburn, N. Y.
6. Curtis' Cam Mower, GEO. P. CURTIS, Chicago, Ill.
7. Cayuga Chief, Senior, SHELTON & Co., Auburn, N. Y.
8. Cayuga Chief, Junior, do. do.
9. Manny's Senior Mower, JOHN P. MANN, Rockford, Ill.
10. do. Junior do. do. do.
11. Buckeye Senior, H. H. TAYLOR, Freeport, Ill.
12. Buckeye Junior, do. do.
13. Rugg's Mower, G. H. RUGG, Ottawa, Ill.
14. Esterly's Mower, GEO. ESTERLY, Whitewater, Wis.
15. Cogswell's Patent, T. H. MEDELL, Ottawa, Ill.
16. Seymour, Morgan & Allen's, Brockport, N. Y.
17. McCormick's, C. H. MCCORMICK & BRO., Chicago.

The same machines, with the exception of two or three of the Junior mowers, were put on trial as reapers, either in competition for the premium offered for the best reaper, or for that offered for the best combined reaper and mower. Wood's, McCormick's, Seymour & Morgan's, and Cline, Seiberling & Hower's "Excelsior," were the competing machines as self-rakers. The trial of mowers was commenced July 22d, continued the 23d, and completed Saturday the 26th, the 24th and 25th having been employed in testing reapers, headers, and binders in the grain.

Perhaps the most interesting feature was the trial of the Mowers "under difficulties," that is upon "a field of prairie grass, composed," says one of the accounts before us, "of upland and slough, with a very rough bottom; some parts with large bogs on the borders of the slough; some places the blue grass had fallen the year before and formed a thick mat at the bottom of the blue grass (one of the most formidable things to meet;) other portions had been overflowed and swept down through the lowlands with the severe storm, and the grass left covered with mud and grit—in fact there was everything combined to test the machinery. There was no drawing of lots, each machine was to follow the other around, doing the best it could." All the machines were tried here, excepting Nos. 4, 13, 14 and 15, in our list above; and they all seem to have done unexpectedly well, in view of the obstacles encountered—"now and then cutting off a huge tussock or clump of willows, each machine doing itself credit for its manner of work—some better than others, however—the more lighter machines being more apt to be thrown off their balance, and now and then jump over a spot of grass; the heavier machines and those with the flexible or jointed bars hugged the ground more closely and were not satisfied without the last straw." The task of deciding the awards will be one of no very easy nature. We believe there are to be but two prizes, one on the Reapers, and the other on the Mowers. The Executive Committee of the State Society as we understand it, are acting as their own judges. Their awards will possess the greatest weight, if accompanied by a full and carefully prepared report, detailing the various steps by which their conclusions shall be reached, in such a manner as to throw increased light upon the requisites and efficiency of the Mower and Reaper in their present stage of development,

and thus convey instruction to the Farmer, as well as motion and encouragement to the Manufacturer. But whether all this is or is not brought about, such a "field-day" cannot fail to elevate the standard demanded by the Farmer in the machinery he is expected to buy; and the present one appears also to have shown very conclusively that the field of invention in Reapers and Mowers is not yet exhausted; that additional progress is making in them with every successive year, and that the limit of improvement and perfection while thus constantly drawing nearer and nearer, may be still more distant in its final attainment than some of us have hitherto been ready to suppose.

THE GRAIN APHIS AGAIN IN DUCHESS COUNTY.—I notice you speak of the Aphis not appearing where he did last year, and sincerely wish we could bear you or rather Dr. Fitch out in the statement; but, unfortunately, the oat crop, which was seriously injured last year, will be damaged *much more* this. I do not know of a single field of that grain in this neighborhood that is not peopled with them. S. T. Thornedale, July 24.

THE APHIS IN VERMONT.—In the season of 1861, the wheat midge and aphis destroyed some pieces of wheat entirely; some of the grain was literally covered with them. While cutting my wheat, barley, and oats, I noticed they all left the grain as soon as it was cut, and the stubble and grass would be covered over with them, and thousands still crawling on the ground. This day, Aug. 11, 1862, I have examined all the grain that I have, and cannot find the first sign of the rebels. P. K. D.

Grand Isle Co., Vt., Aug. 11, 1862.

GRAIN APHIS IN NEW-JERSEY, &c.—The grain aphis has eaten the oats badly about here. Mine are scarcely worth threshing. Some of the neighbors have escaped. Corn is very backward this year. Fruits and crops of all kinds but oats and clover, which were retarded by a drouth the last of April, are yielding very well. Potatoes show an occasional touch of the rot. My experience in applying coal tar to corn before planting, is the reverse of that of one of your correspondents. On the same field the untarred corn started one week or more earlier than the tarred, and has kept ahead of it. Both kinds had the same treatment otherwise. G. L. New-Brunswick, N. J.

THE APHIS IN GENOA, CAYUGA CO.—The aphis will not do much injury here this season—nothing in comparison with the last year. This is in the southwest part of the county. North and east I hear of considerable damage being caused by this insect. Last year they were first observed on winter wheat and on barley—then spring wheat and oats—doing very much injury to late sown oats. Early sown grain of all sorts received but little damage, and if the grain arrives at a certain stage in ripening, although covered with the aphis for many days, it receives inconsiderable damage. The opinion is prevalent here that they stay but one year in a place to do much injury, and that they are moving from one region to another. The proper way to avoid injury is to sow grain of all sorts (where they are expected) very early. E. A. KING.

At the last meeting of the Upper Canada Board of Agriculture, Messrs. CHRISTIE, BURNHAM, STONE and DENISON were appointed Delegates to the New-York State Fair at Rochester.

LARGE STRAWBERRIES.—The editor of the *Rural New Yorker* acknowledges the receipt of two quart boxes of Triomphe de Gand strawberries, from Ellwanger & Barry—the smallest berries of which measured five inches in circumference. Fifty berries filled the two quarts. Two inches is not an unusual measurement for the longest diameter of well grown berries of this variety.

The Susquehanna Valley Agricultural Society holds its Fair at Montrose, September 24, 25.

Inquiries and Answers.

WARTS.—How can I remove a large, flat bloody wart from a colt's knee—to cut it will injure him, and I cannot cord it. O. A. Fayette Co., Pa. [We give Dr. Dadd's remedy:—"A wart having a broad base should be treated in the following manner: Take a common suture needle, and arm it with a double ligature; each ligature is to be composed of three threads of saddler's twine, well waxed; pass the needle right through the center of the wart, close down to the skin; tie each half separately with a surgeon's knot, as tight as possible; cut the ends off pretty close to the knot, and in the course of a short time the whole will drop off. A wart having a small circumscribed pedicle may be removed in the same way, by tying a single ligature around its base. If the exposed surfaces should not heal readily, moisten them occasionally with tincture of aloes and myrrh; and if they show a disposition to ulcerate, sprinkle them with powdered charcoal and bloodroot, equal parts."]

HARD SOAP.—I have made a domestic experiment which threatens to be a failure unless you will be good enough to give some counsel. Ten pounds of washing soda had been used in making hard soap. To the residuum, (yet standing in the large vessel in which it had been dissolved,) was added five or six pails of water, which settled perfectly clean, and was used instead of soft water to wet ashes set up to leach, and the lye thus procured, (with ten pounds of potash,) was used in an attempt to manufacture soft soap, which has resulted in an unacceptable approximation to hard soap. S. D. [There was still too much soda held by the water in solution—the only "counsel" we can give is to avoid the soda in future for soft soap.]

RATES OF WAGES—WHERE TO GO?—Having been a constant reader of your paper these last two or three years, and seeing in them lately letters from various correspondents containing advice about "how to get a farm," I would beg leave to take your attention for a few moments on this important subject. I with a considerable number of other Canadians in these parts intend coming over to the "States" this fall—all of us with a determination to make homes for ourselves. We all of us understand more or less of farming, though we are entirely bare of capital to go and buy farms with, and what we wish to know is, in what part can we get this capital quickest? Of course we all know that hard work alone will be the surest way of getting it, and what we wish to ask is, would you or any of your correspondents inform us whether it would be more advisable to go to the Western or newly settled states, or the Eastern—also the rates of wages given to farm laborers, together with the kind of agreement usually made for working farms on shares? L. W. London, Canada West. [These inquiries are evidently made in good faith, and we hope some of our correspondents will reply.]

FRUIT-TREES FOR THE NORTH.—Where is the nearest reliable nursery from which one could procure fruit-trees likely to do well in this cold climate? I bought some of a New-York nurseryman, with others of this place, a few years since, and but very few of the trees are now alive. All the old orchards that a few years since looked well, (treatment and climate considered,) are fast dying. Are there any very hardy and good varieties that would be likely to succeed in this part of the State, and farther north? And do you know of an eastern nursery as far north as this? J. H. F. Whitefield, Coos Co., N. H., July 15. [It is of less importance to obtain the trees from a northern nursery than to procure hardy varieties. A tree, properly grown in Southern Pennsylvania, on a dry soil of moderate fertility, with well-ripened wood, may be more suitable for Northern New-Hampshire, than one grown in New-Hampshire itself and over-fed with manure, and with a late succulent growth. Vigorous, hardy trees, with the shoots fully matured and hardened, are better than feeble and stunted ones; and a dry soil effects such ripening more perfectly than a wet or moist one. Among northern nurserymen, we may name John W. Adams of Portland, and S. L. Goodale of Saco, Maine; R. T. Robinson of Ferrisburgh, Vermont; and John W. Bailey of Plattsburgh—all of whom, we doubt not, are reliable, and understand the wants of the far north. Among hardy varieties of the apple, we would name Red Astrachan, Sops of Wine, Oldenburgh, Autumn Strawberry, Fall Orange, Fameuse, Winesap, St. Lawrence, and Jonathan. Among hardy pears, are Flemish Beauty, Buffum, Fulton, Urbaniste, Lawrence, &c. If the trees grow on dry bottom, and growth be given to them by good cultivation, and if in addition, shelter be provided against cutting winds, they may succeed well.]

WHITE RASPBERRY—CHIP MANURE.—Would rotten chip manure be beneficial to strawberries, and young fruit trees in a nursery? Is not the American White or Yellow raspberry worthy of cultivation? We found some plants in an old field several years ago, and transplanted some of them into our garden, where they seem to do well. They are as large as the Black Cap, which we procured from Mr. Doolittle of Oaks' Corners, N. Y. The bushes are very full of berries, which are just ripening. F. A. F. [Chip manure may be valuable, useless, or hurtful, according to circumstances. If old and well rotted, it will be useful in all soils that are improved by the addition of vegetable matter, if well worked in and intermixed. On a hard clayey soil, it may serve to loosen it, even if fresher and not rotted. The same treatment would injure a light soil. Chips, if not coarse, may serve as a good mulching for newly transplanted trees. As a general rule, for all purposes, use it if fine and rotted, discard it if fresh and coarse. The "American White Raspberry" was formerly considerably cultivated, but has of late years given way to ranker growers which multiply more readily. We think it worthy of attention, and know of no sort with so agreeable a flavor.]

ROT IN CHERRIES.—Can you tell me of any way to prevent cherries rotting on the tree, mine have rotted badly? B. C. [It is the result of wet and warm weather. By planting the trees where there will be a free circulation of air the evil will be lessened, but the best way is to select such varieties as are least liable to rot. High flavored, rather acid sorts are least affected, and sweet varieties most—as a general rule. The Black Tartarian, which is almost free from any acidity, which bears profusely, and the fruit of which is commonly shaded by heavy foliage, retains moisture a long time, and is very apt to rot. Elton and Governor Wood, which have open spreading heads, are less liable. Sour cherries, such as the Early Richmond, Belle de Seeaux, and common pie cherry, scarcely ever rot, even in weeks of wet weather. The more acid heart varieties, such as Dr. Kirtland's Red Jacket and Tecumseh, do not rot so readily as most heart cherries. These being hardy trees, they are likely to prove valuable for marketing. The same rule holds true with many other small fruits. The cherry currant, for example, is too sour to suit most palates, but is preferred by some cultivators on account of its hanging long on the bush, its sourness preventing rotting, and its size shrivelling.]

PEACH-LEAVED CAMPANULA.—The plant sent by "Constant Reader," judging from the meagre and injured specimen, is the white variety of *Campanula persicifolia*, a commonly cultivated and handsome perennial. There are some of the many species of this genus that have not bell-shaped flowers, but most, and those especially from which the name was given, have this form.

TREATISE ON SHRUBS.—Please inform your readers what is the best descriptive work upon ornamental shrubs and oblige A SUBSCRIBER. [There is no good work on the subject. Perhaps the best small work is Breck's Book of Flowers, one-third of which is devoted to some account of trees and shrubs.]

RINGING BULLS.—Is it considered advisable to ring bulls? Does the operation have a tendency to make the animal more docile and tractable, or is the ring inserted merely for the purpose of easy leading? How is the operation performed, and what is the proper age? B. A. Rock Spring, Penn. [Will some of our large cattle raisers give their views? We have supposed that the ring which is merely inserted in the nose, and not through the flesh, the best, as being more humane—what does experience say?]

YELLOW CLOVER.—The plant forwarded by "Young Inquirer" of South Berwick, Maine, is the yellow clover, an introduced plant of little value, and generally regarded as a weed.

PEELING WILLOW BY MACHINERY.—We have a willow forest, and have been peeling the willow by hand; finding that too big a job, we are anxious of getting a machine. If you know of any such machine, will you give us the address of the manufacturer or the salesman, and if you know personally of them, will you please give us your preference? J. R. & Co.—Pittsburgh. [We do not know of such a machine—if our readers do will they please reply?]

FOOT AIL.—A remedy for foot ail is inquired for in THE CULTIVATOR, and I would prescribe as a sure remedy, spirits of salts, (muriatic acid.) A teaspoonful, applied to the diseased parts once in two or three days, for half a dozen times, will cure its worst form, and a single application taken in season, will often be enough. Farmers, please try it, and let

me hear from you. The milder form, or scratches as it is often called, which often appears on horses as well as cattle, may easily be cured by the application of pot fat, or lard well saturated with salt. The former is best. Both sure remedies in this vicinity. Every farmer should keep the former by him. A READER OF THE CULTIVATOR. *Milford, Ct.*

THE HOMESTEAD LAW.—I see in the August number of THE CULTIVATOR, an inquiry about the "Homestead Bill," its provisions, where public lands are situated, &c., &c., which you have answered in the main correctly. If not trespassing too much I would like very much to give some information to those seeking "free homes," through the medium of your excellent paper. To be as brief as possible, I would refer parties to your August number, as to *who* can take the benefit of the "bill." Now as to the location of these lands: Certain railroads have lands granted for their construction—to wit: every alternate *even* numbered section, within 6 miles of the road is retained by Government, and is held at \$2.50 per acre, while every alternate *odd* numbered section is donated to the railroad, so that one can enter the even numbered section *within* the six mile limit, at \$2.50 per acre, or take 80 acres under the "Homestead Bill." Outside of this limit one can enter for \$1.25 per acre, or take 160 acres under the said bill or act. (I see that you had it within *fifty* miles of the road, an error in printing I take it.) Large quantities of Government lands are still vacant and unappropriated in this part of Wisconsin, to wit: in what is called the "Chippewa Land District." Location of land office is Eau Claire, Eau Claire Co., Wis., a town of 2000 inhabitants. Good land can be got within 12 miles of this place, within $\frac{1}{2}$ to 3 miles from good settlements, schools, &c. Land is well watered; prairie and heavy timber. Climate about same as central New York and Massachusetts; pleasant winters and very healthy, no fever and ague. The country is rapidly settling up with New York and New England people. Any letters of inquiry directed to H. C. Putnam, County Surveyor, Eau Claire, Wis., from any of your subscribers, will be cheerfully answered, giving all necessary information. We communicate with the east via Chippewa and Mississippi river by steamboat.

H. E. P.

Eau Claire, Wis.
AGE OF SHEEP.—Can you or some of your correspondents give a simple and reliable rule by which the age of sheep may be ascertained? A SUBSCRIBER. *Kingston, N. Y., July 27.* [The lamb, when dropped, has two small incisor teeth in the lower jaw, sometimes none, and others appear in a few weeks. These are temporary teeth. In the second year, the two central ones drop out and are succeeded by two broader and larger ones, the permanent teeth. In the third year, two more drop out and are succeeded by two more large ones, making four in all. The fourth year there are six broad teeth, and the fifth eight, or a full set. This general rule, however, has considerable exception, as the permanent teeth sometimes appear earlier. After five years there is no accurate mode of judging the age, and an estimate can be made only by those who have had considerable experience, by their being worn down or broken.]

CAN THE POTATOES BE SAVED.—I have been promising myself the pleasure of sending you some *Colebrook seedlings*, a new fall potato, originating in Connecticut, and, I believe, unknown to the public generally. It is a large, oval, smooth red-skinned potato, having the eyes directly on the surface, a great point with the potato peeler. I planted five cut potatoes, whose product grew finely until the latter part of July, when the leaves turned brown, apparently from the attacks of a small black bug which covered them in great numbers. I fought them with lime, ashes, manure-water, &c., but in vain. The tops died down, and I pulled them up. The potatoes are half or two-thirds grown. What shall I do with them? Leave them in the ground or dig them up? W. H. COLEMAN. *Orange Co.* [Is our correspondent sure that it is not the rot which affects his potatoes? In that case, we should think it the better way to dig them at once.]

THE GRAIN APHIS.—I notice in your issue for August, an inquiry in regard to the presence of the grain aphis in different sections. I have a small piece of wheat which has been covered with them as thick as the wheat in this section was last year; they came on early, as soon as the heads of the wheat began to show; they have now entirely disappeared. I also noticed a few on my oats. Any facts in regard to this insect will be of interest to farmers in this section? E. W. *Torrington Conn.* [A very full account of the Grain Aphis from the pen of Dr. Fitch, may be found in the COUNTRY GENTLEMAN for August 15, 1861, p. 114—also in the Transactions of the N. Y. State Ag. Society, 1860, pp. 833-840.]

KEROSENE FOR LICE ON CATTLE.—I can add my testi-

mony to that of one of your correspondents regarding the efficiency of kerosene oil, in expelling vermin. A dog in a wretched state of body and mind, by reason of flees, was thoroughly washed in the oil, and the enemy skedaddled. Would it not be good for lice on cattle? W. H. COLEMAN. *Orange Co. Aug. 7.*

WILLOW PEELER.—Answer to inquiry in last Number:—Matthew Easterbrook, jr., of Geneva, N. Y., has invented and patented an excellent willow peeler. Any information concerning it may be obtained by addressing him as above.

V. P.

Refuse Pulp from Cider Mills as a Fertilizer for Apple Trees.

M. FRERE HENRY of Rennes, in an article communicated to the *Abeille Pomologique*, mentions the following interesting facts:

For fifteen years he remarked that apple trees, the lower part of whose stem was covered with cider pressings, spreading out from a large adjoining heap of that material, made double and treble the growth of trees that were not so circumstanced.

More recently, between old and extremely exhausted willow stools, there was spread about nine inches thick of old marc, or cider pressings. In the same year of the application this produced an extraordinary effect. Those Willow stools, which for many years had produced only weak twigs, scarcely worth the expense of cutting, pushed with great vigor, and have since continued to do so. In consequence of these observations, he determined on turning to account, as manure for fruit trees, an enormous heap of marc which blocked up the way. He asked the opinion of some fruit growers; but they said the marc would burn the roots. However, in the beginning of February, observing that the pips were beginning to germinate all over the surface of the heap, he concluded that if the radicles of the embryo were not burned, it was not likely that older roots would be injured, and did not hesitate to apply the manure to four hundred apple and pear trees, in the following manner:

In February, 1859, he removed the soil from around trees, trained as pyramids and as vases, to the distance of a radius of twenty-one inches, and as deep as the principal upper roots. He then put to each tree three or four forkfuls of marc, pressing it down with the foot, and covering it slightly with a portion of the removed soil, the remainder of which was spread on the borders. As marc is very retentive of moisture, and at the same time a good conductor of heat, which was excessive in 1859, numerous roots were speedily formed in its slowly decomposing substance. "Even this year," says MR. HENRY, "although rather colder than usual, the effects of the impulse given as above to vegetation is remarkably apparent. The stems of fruit trees have become clear of Lichens and Moss; and latent buds, from the abundant flow of sap, were readily developed on making an incision where branches were wanted to be called into existence. Bad growers, such as the Mouillebouché and Bezi de Caissoy Pears, were thus made to present a regular vegetation.

"But a fact to which I would wish more particularly to draw attention is, that some delicate varieties of which the fruit is apt to crack, for example, the Beurre d'Artemberg, or Glout Moreau, Doyenne Roux, Beurre Gris, &c., now produced fruit perfectly smooth and sound.

"In conclusion I am justified by my own experience, in saying that I can confidently recommend the use of the marc of apples as a manure for fruit trees, and thus turn to good account a substance which many allow to go to waste, not even taking the trouble to mix it with the dung in the manure heaps.

"Before using the marc it would probably be advisable to throw it up in a large heap so as to induce fermentation in order to disengage certain acid or other principles; and then apply it to the trees when the germination of the pips takes place, that is, in the month of February. Fruit trees in gardens, and doubtless

also those in fields, treated as above detailed, would repay the labor a hundred-fold."—*Genesee Farmer*.

HICKOK'S PATENT PORTABLE KEYSTONE CIDER

AND
WINE MILL.

Sold at wholesale and retail by
GRIFFING BROTHER & CO.,
July 31—w&m2mos. 60 Courtlandt-St., New-York City.

ALDERNEY COWS HEIFERS AND BULLS,

For sale by ROBERT L. MAITLAND,
July 31—w&m1yr. Newport, Rhode Island.

SHORT-HORNS FOR SALE.— HEIFERS, YEARLINGS AND CALVES,

Full of GLOSTER and OXFORD blood, will be sold on reasonable terms. Apply to FRANCIS MORRIS,
July 17—w&m3mos. Throgs' Neck, Westchester Co., N. Y.

CHESTER COUNTY PIGS FOR SALE.— SAMUEL HILL JR.,

Florence Nursery, Florence, Mass.
June 12—w1yr.*

SHORT-HORNS AND ALDERNEYS FOR SALE.

The subscriber offers for sale, at reasonable prices, a number of Short-Horn cows, heifers and bulls, of Bates' blood, and in prime condition, and also a few pure and high grade Alderney cows, heifers and bulls of the best blood in the country, delivered at the cars in Albany free of charge. Address Dr. HERMAN WENDELL,
Feb. 13—w&mtf. Hazelwood, Albany, N. Y.

CHESTER COUNTY PIGS.

The undersigned continues to execute orders as heretofore for his pure stock of the above celebrated breed, which will be carefully shipped to any point of the Union, in pairs not akin.

The selections are made only from pure bloods, and chiefly from premium animals which have been uniformly successful at our local fairs. He refers to purchasers from him in all sections of the Union.—PASCHALL MORRIS, Agricultural and Seed Warehouse,
Feb. 14—wtf. 1120 Market-street, Philadelphia.

A FIRST PREMIUM SHORT-HORN BULL, COTSWOLD SHEEP AND AYLESBURY DUCKS,

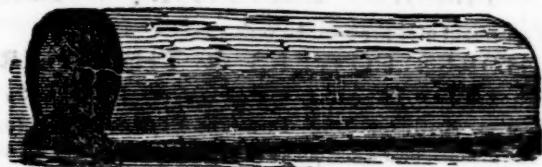
for sale by E. C. ARMSTRONG, Florida, Orange Co., N. Y.
March 20—w1yr.

PREMIUM CHESTER COUNTY WHITES.—

THOMAS WOOD continues to ship to any part of the Union these celebrated HOGS in pairs not akin, at reasonable terms. Address PENNINGTONVILLE, Chester Co., Pa.
April 3—w1y—June 1—m1y.

NEW-YORK STATE TILE WORKS, Near the Corner of Lark & Lydius-Sts., Albany, N. Y.,

WM. M. BENDER, Proprietor.
GEO. JACKSON, Superintendent.



The subscriber is prepared to furnish Round, Sole and Horse-Shoe Tile, over 13 inches in length, by the cargo, or in the smallest quantity on demand, at prices that he will defy any other parties to undersell him. He will warrant his tile hard burnt, and to fit close at the joints and altogether superior to any made in the United States.

All tile delivered on board of cars and boats in this city free of charge. Price list sent on application.

N. B.—Drainage to any extent and at any place done by contract and tile furnished for the same. Ap 10—w—Jy 1—m1yr.

Also DRAINING TILE MACHINES for sale, of the latest improved PATTERNS. For further particulars address as above.

RIGHTS FOR SCHOOLEY'S PRESERVATION TORY, (in New-York and Pennsylvania,) for sale by J. L. ALBERGER, Buffalo, N. Y. Send for Pamphlet. Nov. 3.—w1f

ITALIAN QUEENS.—

I am breeding now from the only live original
ITALIAN QUEENS IN THIS COUNTRY,
Imported in March, 1861, per steamer New-York, and accompanied by my bee-keeper, Mr. August Bodmer. Price for a queen, with a few hundred workers, \$7.50.

I guarantee the purity of my Queens. C. WM. ROSE,
July 3—w18t. 63 Exchange Place, New-York.

PERUVIAN GUANO, BONE DUST, POUDRETTE, SUPERPHOSPHATE LIME,

and other Fertilizers for sale by E. H. REEVES & CO.,
Aug. 7—w8t. Agricultural Warehouse and Seed Store,
185 Water-Street, New-York.

KINGSTON CEMENT, PHENIX AND COMBINED GUANO,

AND
NOVA SCOTIA AND WESTERN PLASTER.

For sale at DUNLAP'S Plaster Mill, 67 and 68 Quay Street,
May 2—wtf. Albany, N. Y.

RUSSELL'S PROLIFIC STRAWBERRY PLANTS

are now offered for sale.

Catalogues sent to all applicants giving its origin and

Superiority over all other Varieties,

by enclosing one stamp. Price \$5 per dozen; \$3 per half dozen.

All orders registered at date received.

Plants ready for delivery in the spring of 1863, and will be sent out in rotation as ordered. Address

Aug. 14—w4t. GEORGE CLAPP, Auburn, N. Y.

STRAWBERRY PLANTS.— TRIOMPHE DE GAND.

The subscriber offers this very superior strawberry for sale at reduced rates: \$1 per 100; \$4 per 500; \$7 per 1,000. Also

WILSON'S ALBANY,

50 cents per 100; \$4 per 1,000.

Plants will be carefully packed and delivered to Express without extra charge. Ready for delivery August 20th, and after. Address

Aug. 14—w5t. JOHN DINGWALL, Florist, Albany, N. Y.

SCHENECTADY AGRICULTURAL WORKS, G. WESTINGHOUSE & CO., Proprietors,

MANUFACTURE THEIR PATENT

ENDLESS CHAIN HORSE POWERS, COMBINED THRASHERS & CLEANERS,

THRESHERS AND SEPARATORS
CLOVER MACHINES,
Wood-Saws, (Circular and Cross Cut,) &c.
Also an improved pattern of SWEEP HORSE POWERS and LARGE
THRESHERS AND CLEANERS.

THE FIRST PREMIUM

was awarded our Thresher and Cleaner at the late New-York State Fair, which, with the many favorable reports from persons using them, prove them to be a superior machine, and as such are recommended to the notice of the public.

Also our Improved Clover Machines are offered to the public as possessing all the necessary requirements for hulling and cleaning clover at one operation in the most perfect manner.

Prices and description of the above named machine, will be found in our Illustrated Circular, which will be sent free to all applicants. Address

May 15—w6w6t. G. WESTINGHOUSE & CO.,
Schenectady, N. Y.

E. H. REEVES & CO., AGRICULTURAL WAREHOUSE AND SEED STORE, 185 Water-Street, New-York,

are Agents for the sale of "EMERY BROTHERS'" PATENT

ENDLESS CHAIN HORSE POWERS,
THRESHERS AND SEPARATORS, CLOVER HULLERS, CIRCULAR AND CROSS-CUT SAW MILLS, DOG POWERS, and other goods of their manufacture.
Extra parts always on hand. Aug. 7—w8t.

BEMENT'S AMERICAN POULTERER'S COMPANION,
price \$1.25—Browne's American Poultry-Yard, price \$1—Miner's Domestic Poultry-Book, price 75 cents. For sale at the office of this paper.

CONTENTS OF THIS NUMBER.

THE FARM.

Editorial Correspondence, by J. J. T.	265
Farming Under Difficulties.	265
Ripening Grapes Over Stone Borders.	265
Horticulture at Newport, R. I.	265
A Glance at Providence, R. I.	266
A Handsome Flower Garden.	266
Neat Stables.	267
Commercial Value of Artificial Manures, by Dr. VOELCKER.	267
Depth for Planting Seed.	267
Remedy for Worm in the Top Onion, by GEO. BACHELDER.	271
A Glance at the Farm of EZRA CORNELL.	272
Items in Foreign Agriculture.	273
Wiring Fence Stakes, &c., by HIRAM WALKER.	275
A Column from Alderman Mechil.	277
Lambert Wheat, by F. C. W.	278
The Grain Aphid.	279
Topping Corn or Cutting it by the Ground, by M. M. HOWARD.	282
Ashes for Sandy Soil, by S. P. KEATOR.	283
Notes on a Couple of New-Hampshire Farms, by LEVI BARTLETT.	284
The Farm of Col. Tappan.	284
The Potato Rot and its Prevention, by M. M. HOWARD.	286
Chess—A Bad Weed.	287
Late and Early Wheat Sowing, by J. R. PRINCE.	287
Notes for the Month.	287
Inquiries and Answers.	293
Liming Wheat to Dry it, by P. C. MEAD.	299
Refuse Pulp from Cider Mills as a Fertilizer.	294

THE GRAZIER AND BREEDER.

Pure Water for Stock, by S. E. TODD.	278
Remedies for Crib Biting, by JAMES THOMPSON.	278
Remedy for Foot Ail, by W. G. W.	286
Stock-Growing in Vermont, by C. T. ALVORD.	289

HORTICULTURAL DEPARTMENT.

Horticultural Notes at New-Bedford, Newport & Providence.	265, 266
Henry Wells' Grape House at Aurora.	269
Summer Pruning Hedges.	269
Hard Way of Doing Things.	269
Pear Trees and Woodchucks.	270
Propagation of Fruits, &c.	270
Propagation of Currants and Gooseberries.	270
Peach Leaf Curl.	271
Planting Shade Trees—Cause of their Failure, by WM. BACON.	276
Grape Culture in Kansas, by KANSAS.	279
Experiments in Strawberry Culture, by WM. PARRY.	282
The Triomphe de Gand Strawberry, by J. S. GOULD.	283

THE DAIRY DEPARTMENT.

Dairying in Broome Co.	278
Pounds of Milk for a Pound of Cheese.	283
Chapter on Wine Making, by T. B. MINER.	288

DOMESTIC ECONOMY.

A Small Hint about Doors, &c.	270
Construction of Cement Pipes.	272
How to Make a Cheap Water Trough, by S. E. TODD.	278
Rice Pudding and Sponge Cake, by K.	274
Soldering Irons and How to Use them, by ST. LAWRENCE.	286

FARM BUILDINGS.

A Neat Stable.	267
Mr. Herrick's Poultry House.	280
Balloon Framing for Large Barns, by GEO. E. WOODWARD.	281

THE POULTRY YARD.

Poultry Keeping on a Large Scale, by W. H. HERRICK.	280
A Profitable Hennerly.	287
Remedy for Vermin on Poultry, by A. MOSS.	287

THE BEE-KEEPER'S DEPARTMENT.

A Swarm on a Man's Head.	273
Introducing Italian Queens, by L. A. ASPINWALL.	287

ENTOMOLOGY.

The Asparagus Beetle, by Dr. ASA FITCH.	274
---	-----

ILLUSTRATIONS.

Ripening Grapes over Stones.	265	Poultry House.	280
Ripening Peaches.	266	Balloon Frames.	281
Asparagus Beetle.	274	Triomphe de Gand Strawberry.	283
Wiring Fence Stakes.	275		

LODI PHOSPHATE.

Composed of RAW BONES dissolved in sulphuric acid. Night Soil, Guano and Wool Dust, made by the

LODI MANUFACTURING COMPANY

EXPRESSLY FOR

WINTER GRAIN AND GRASS LANDS.

This article will be warranted to contain no other material than those mentioned above; is undoubtedly the very best manure in market from its composition, and will be sold at the low price of \$45 per ton, packed in barrels of 200 pounds each, nett weight, delivered free on board of vessel or railroad in New-York city.

Poudrette of First Quality

for sale at usual rates. Apply to

THE LODI MANUFACTURING COMPANY.

Aug. 21—w8tm2t.

66 Courtlandt-Street, New-York.

THE HORSE AND HIS DISEASES.

Embracing his history and varieties, breeding and management, and vices; with the diseases to which he is subject, and the remedies best adapted to their cure. By Robert Jennings, V. S. To which are added Rarey's method of taming horses, and the law of warranty as applicable to the purchase and sale of the animal. Illustrated by nearly 100 engravings. Price \$1.25 by mail, postpaid. For sale by

UTHER TUCKER & SON, Co. Gent. Office, Albany, N. Y.

PURE BLOOD SHORT-HORNS,
AT PUBLIC AUCTION.

I shall offer at public sale my herd of SHORT-HORN CATTLE, consisting of Eleven Cows and Heifers, and one Bull,

On Wednesday, October 1st, 1862.

These cattle were bred (mostly by myself) from some of the finest stock that could be selected in New-England.

This herd enjoys the reputation of being "second to none in the Connecticut Valley."

Persons desiring to purchase are requested to send for catalogue.

B. H. STEDMAN,

Aug. 28—w6tm1t.

Chicopee, Hampden Co., Mass.

F O R S A L E.—

The subscriber wishing to give up the farming business, offers his farm for sale, lying on Torrington Street, near Wolcottville, Winstead, New-Hartford, which afford the best of markets for the products of the farm. It contains about 115 acres, 40 of which is woodland, estimated at 2,000 cords, which will pay for the farm, delivered on the Naugatuck Railroad, 1½ miles distant. The buildings are first rate, most of them having been erected within a few years. It is well known as one of the best farms in this section, being in a very high state of cultivation, never having any hay sold from it. Also plenty of orcharding of grafted fruit. It is within a quarter of a mile of church and schools. The farm will be sold at a low price, and part of the purchase money may remain on mortgage if desired.

JOHN GILLET,

Sept. 1—m2t.

Torrington, Litchfield Co., Conn.

THE LARGEST SALE

OF

THOROUGH-BRED DEVON CATTLE

EVER HELD IN AMERICA.

WILL BE SOLD AT

PUBLIC AUCTION,

On the 10th of Sept., 1862, at 12 M.,

on the premises of R. LINSLEY, the entire herd of Devon Cattle of

LINSLEY BROTHERS & CO.,

Aug. 21—w3t.

West Meriden, Conn.

AGRICULTURAL IMPLEMENTS
CHEAP FOR CASH.

Closing out sale of the whole stock and trade of



"PEASE'S EXCELSIOR WORKS,"

at a discount of 25 per cent. for cash.

HORSE POWERS & THRESHERS,

CIDER MILLS, SAW MILLS,

Clover Hullers, Dog Powers, Fodder Cutters, &c.

The manufacturing machinery and Patent Rights are all for sale Price Lists and inquiries answered by addressing

Aug. 21—w2tm1t. RICHARD H. PEASE, Agent, Albany, N. Y.

THE FARMER'S LIBRARY

We know of no works which afford so much Practical Information on the subject of American Agriculture, which can be procured for double the cost, as the Third Series of "THE CULTIVATOR," the 9th vol. of which is now completed. The price of the Nine volumes, handsomely bound in muslin, is 75 cents each at this office, or \$1.00 each sent by mail, post paid. Either volume from 1 to 9, can be had separately at the same price. The Nine volumes will be sent per Express to any part of the country, on receipt of \$6 75.

AGRICULTURAL AND HORTICULTURAL
Books for sale at this office.